

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”, 10th edition
by Allyn J. Washington (ISBN-13: 978-0-13-311653-3;
ISBN-10: 0-13-311653-0)
Publisher: Pearson/Prentice Hall**

Note to Student: Any scientific calculator is recommended for this class

SECTIONS	TOPICS	SUGGESTED EXERCISES
CHAPTER 9: VECTORS and OBLIQUE TRIANGLES (≈ 4 hours)		
9.1	Introduction to Vectors	p. 261 /9,13,15,23,37,41,45
9.2	Components of Vectors	p. 264 /5,7,13,17,21,23,27,29
9.3	Vector Addition by Components	p. 270 /3,7,11,13,15,21,25,29
9.4	Applications of Vectors	p. 273 /3,5,7,13,17,19,22
CHAPTER 12: COMPLEX NUMBERS (≈ 8 hours)		
12.1	Basic Definitions	p. 340 /5,9,11,21,23,27,31,37,49,53
12.2	Basic Operations with Complex Numbers	p. 343 /7,11,17,19,25,31,35,41,45
12.3	Graphical Representation of Complex Numbers	p. 345 /5,13,17,29
12.4	Polar Form of a Complex Number	p. 348 /3,7,15,19,21,25,29,33
12.5	Exponential Form of a Complex Number	p. 350 /5,9,11,17,21,27,233,37
12.6	Products, Quotients, Powers, and Roots Of Complex Numbers	p. 356 /5,7,9,11,17,25,29,35,37,39
CHAPTER 3: FUNCTIONS and GRAPHS (≈ 4 hours)		
3.1	Introduction to Functions	p. 83 /5-27 odd
3.2	More about Functions	p. 87 /5,7,15,17,25,29,31,37
3.4	The Graph of a Function	p. 94 /7,11,19,29,33,37,41
CHAPTER 13: EXPONENTIAL AND LOGARITHMIC FUNTIONS (≈ 8 hours)		
13.1	Exponential Functions	p. 368 /3,7,9,11,13,17,19,22,23,26,28
13.2	Logarithmic Functions	p. 372 /5,9,15,19,27,29,35,43,63,65
13.3	Properties of Logarithms	p. 377 /9,17,19,25,27,31,35,41,43,47,49,53,55
13.5*	Natural Logarithms	p. 383 /9,11,13,19,23,43,45,49,51
13.6	Exponential and Logarithmic Equations	p. 386 /5,11,17,21,27,29,39,43,47,49

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

(OVER)

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

10.1	Graphs of $y = a \sin x$ and $y = a \cos x$	p. 294 /3,5,13,19,27,29,33
10.2	Graphs of $y = a \sin bx$ and $y = a \cos bx$	p. 297 /7,11,15,19,27,33,39,43,53,55,61,63
10.3	Graphs of $y = a \sin (bx + c)$ and $y = a \cos (bx + c)$	p. 301 /3,9,13,19,23,25,27,35,37
10.4	Graphs of $y = \tan x$, $y = \cot x$, $y = \sec x$, $y = \csc x$	p. 304 /3,7,15,23
10.5	Applications of the Trigonometric Graphs	p. 306 /1,3,5,7,9,11,13

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

20.1	Fundamental Trigonometric Identities	p. 537 /7,11,15,23,25,29,33,35,37,43,49,66
20.2	The Sum and Difference Formulas	p. 542 /3,5,7,9,13,19,23,25,31
20.3	Double-Angle Formulas	p. 545 /9,15,17,21,23,29,31,33,37,39
20.4	Half-Angle Formulas	p. 549 /9,11,13,21,23,29,31,35,39,42
20.5	Solving Trigonometric Equations	p. 553 /5,9,13,15,19,23,27,29,33
20.6	The Inverse Trigonometric Functions	p. 553 /11,13,15,21,23,25,27,33,35,41,44,47

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

5.5	Solving Systems of Two Linear Equations in Two Unknowns by Determinants	p. 158 /5,9,15,17,19,21,27,39.
5.6	Solving Systems of Three Linear Equations in Three Unknowns Algebraically	p. 162 /3,7,11,13,21
5.7	Solving Systems of Three Linear Equations in Three Unknowns by Determinants	p. 168 /3,5,7,13,15,17,25,36

Academic Integrity

Academic dishonesty (such as plagiarism and cheating) is prohibited at Bronx Community College and is punishable by penalties, including failing grades, dismissal and expulsion. For additional information and the full policy on Academic Integrity, please consult the BCC College Catalog.

Accommodations/Disabilities

Bronx Community College respects and welcomes students of all backgrounds and abilities. In the event you encounter any barrier(s) to full participation in this course due to the impact of a disability, please contact the disAbility Services Office as soon as possible this semester. The disAbility Services specialists will meet with you to discuss the barriers you are experiencing and explain the eligibility process for establishing academic accommodations for this course. You can reach the disAbility Services Office at: disability.services@bcc.cuny.edu, Loew Hall, Room 211, (718) 289-5874.

Spring 2009 (NN/RG) 2010,2013 (PY)

Last updated 03/01/2019