

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

SYLLABUS: MTH 15-CALCULUS (3 credits, 3 hours)

PREREQUISITE: MTH 14

**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 graphic calculator is recommended.

SECTIONS	TOPICS	SUGGESTED EXERCISES
CHAPTER 25 INTEGRATION (approx. 10 hrs.)		
25.1	Antiderivatives	p. 744/1-35 odd
25.2	The Indefinite Integral	p. 748-749/1-39 odd
25.3	The Area Under a Curve	p. 754/1,5,9,11,15,19
25.4	The Definite Integral	p. 757/1,3,5,9,13,17,21,23,25,27,29,33
25.5	Numerical Integration: The Trapezoidal Rule	p. 761/1,3,7,11
25.6	Simpson's Rule	p. 764/1,3,7,11,13
CHAPTER 26 APPLICATIONS OF INTEGRATION (approx. 8 hrs.)		
26.1	Applications of the Indefinite Integral	p. 772-773/1-25 odd
26.2	Areas by Integration	p. 777-778/1-29 odd; 33,35
26.3	Volumes by Integration	p. 783-784/1,3,5,9,13,17,21,23,27,29,38
26.4*	Centroids	p. 789-790/1,5,9,13,17,21,25,30
26.6	Other Applications	p. 799/1,5,7,13,17
CHAPTER 28 METHODS OF INTEGRATION (approx. 10 hrs.)		
28.1	The General Power Formula	p. 842-843/1-31 odd
28.2	The Basic Logarithmic Form	p. 846-847/1-37 odd
28.3	The Exponential Form	p. 849-850/1-17 odd; 25-33 odd
28.4	Basic Trigonometric Forms	p. 853/1-21 odd; 27,29,31
28.5*	Other Trigonometric Forms	p. 857/1-27 odd; 31,32,35
28.7	Integration by Parts	p. 865/1-25 odd
28.8*	Integration by Trigonometric Substitution	p. 868/1-19 odd
CHAPTER 30 EXPANSION OF FUNCTIONS IN SERIES (approx. 7 hrs.)		
30.2	Maclaurin Series	p. 912/1,3,4,5,11,17,19
30.4	Computations by Use of Series Expansions	p. 920/1,4,5,7,9,13,17
30.5	Taylor Series	p. 923/1,5,9,13,17,21
30.6	Introduction to Fourier Series	p. 929/1,3,5,7
CHAPTER 31 DIFFERENTIAL EQUATIONS (approx. 7 hrs.)		
31.1	Solutions of Differential Equations	p. 941/1,5,7;11-23 odd
31.2	Separation of Variables	p. 945/1-35 odd
31.4	The Linear Differential Equation of the First Order	p. 950/1,3,5,9,13,17,21,23,25,27,29,31
31.6	Elementary Applications	p. 956-958/1,13-21 odd; 25,27,35,36

*Optional

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.

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RG(1/2006) PY(11/2009) PY(08/2014)

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