

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", 8th edition
by Allyn J. Washington (ISBN: 0-321-13194-0)
Publisher: Addison-Wesley

Note to student: The CASIO CFX 8950G or any TI series graphic calculator is recommended.

SECTIONS	TOPICS	SUGGESTED EXERCISES
CHAPTER 25 INTEGRATION (approx. 10 hrs.)		
25.1	Antiderivatives	p. 735/1-35 odd
25.2	The Indefinite Integral	p. 740/1-39 odd
25.3	The Area Under a Curve	p. 745/1,5,9,11,15,19
25.4	The Definite Integral	p. 748/1,3,5,9,13,17,21,23,25,27,29,33
25.5	Numerical Integration: The Trapezoidal Rule	p. 751/1,3,7,11
25.6	Simpson's Rule	p. 755/1,3,7,11,13
CHAPTER 26 APPLICATIONS OF INTEGRATION (approx. 8 hrs.)		
26.1	Applications of the Indefinite Integral	p. 763/1,3,5,7,11,13,15,17,21
26.2	Areas by Integration	p. 769/1,3,5,9,13,17,21,23,29,35
26.3	Volumes by Integration	p. 774/1,3,5,9,13,17,21,23,27,29
26.4*	Centroids	p. 780/1,5,9,13,17,21,25
26.6	Other Applications	p. 791/1,5,7,13,17
CHAPTER 28 METHODS OF INTEGRATION (approx. 10 hrs.)		
28.1	The General Power Formula	p. 834/1-31 odd
28.2	The Basic Logarithmic Form	p. 837/1-37 odd
28.3	The Exponential Form	p. 840/1-17 odd; 25,27,29
28.4	Basic Trigonometric Forms	p. 844/1-21 odd; 27,29,31
28.5*	Other Trigonometric Forms	p. 848/1-27 odd; 31,32,35
28.7	Integration by Parts	p. 856/1-25 odd
28.8*	Integration by Trigonometric Substitution	p. 859/1-19 odd
CHAPTER 30 DIFFERENTIAL EQUATIONS (approx. 7 hrs.)		
30.1	Solutions of Differential Equations	p. 912/1,5,7,11,21,23
30.2	Separation of Variables	p. 916/1-35 odd
30.4	The Linear Differential Equation of the First Order	p. 921/1,3,5,9,13,17,21,23,25,27,29,31
30.5	Elementary Applications	p. 925/1,13-21 odd; 25,27,35,36
CHAPTER 29 EXPANSION OF FUNCTIONS IN SERIES (approx. 7 hrs.)		
29.2	Maclaurin Series	p. 883/1,3,4,5,11,17,19
29.4	Computations by Use of Series Expansions	p. 891/1,4,5,7,9,13,17
29.5	Taylor Series	p. 894/1,5,9,13,17,21
29.6	Introduction to Fourier Series	p. 900/1,3,5,7

*Optional
RG(1/2006)