Bronx Community College of the City University of New York
Department of Mathematics and Computer Science

SYLLABUS: MTH 32 – Calculus and Analytic Geometry II (5 credits/ 6 hours per week)

PREREQUISITE: MTH 31 - Calculus and Analytic Geometry I or equivalent; and CUNY English Proficiency, or ENG 100 or 110, if required

TEXT: Calculus (Ninth Edition) by Stewart et al., Cengage Learning. ISBN 978-1-337-62418-3
Students who do not need Math 33 may use Single Variable Calculus (Ninth Edition) by Stewart et al., Cengage Learning. ISBN 978-0-357-04291-5

SECTION	TOPIC	SUGGESTED EXERCISES
	Chapter 5: Applications of Integration	
5.1	Areas between Curves	370: 1–29 odd
5.2	Volumes	384: 1–33 odd, 66-72
5.3	Volumes by Cylindrical Shells	392: 1–25 odd
	Review Exercises	406: 1, 7, 9, 17, 25, 27
	Chapter 6: Inverse Functions	
6.1	Inverse Functions and Their Derivatives	418: 1–15 odd, 23-27, 35-43
	Instructor's option: 6.2-6.4 or 6.2*-6.4*	
6.2	Exponential Functions and Their Derivatives	429: 1, 7–13 odd, 23–49 odd, 79-89 odd
6.3	Logarithmic Functions	438: 1–17 odd, 27–41 odd
6.4	Derivatives of Logarithmic Functions	448: 1–29 odd, 47–57 odd, 75–85 odd
6.2*	The Natural Logarithmic Function	458: 1-37 odd, 63-75 odd
6.3*	The Natural Exponential Function	465: 5-11 odd, 25-49 odd, 75, 79-89 odd
6.4*	General Logarithmic and Exponential Functions	476: 1-9 odd, 21-41 odd, 45-49 odd
6.6	Inverse Trigonometric Functions	493: 5–13 odd, 23–35 odd, 45, 47, 61–73 odd
6.7	Hyperbolic Functions	501: 11–27 odd, 35–49 odd, 67–75 odd
6.8	Indeterminate Forms and L'Hospital's Rule	511: 1–4, 5–65 odd, 73-76
	Review Exercises	517: 5–47 odd, 63–77 odd, 93–105 odd

Chapter 7: Techniques of Integration

7.1	Integration by Parts	528: 1–41 odd, 53–60

Instructor's option: 7.4 can be done immediately after 7.1.

7.2	Trigonometric Integrals	536: 1–31 odd
7.3	Trigonometric Substitution	543: 1–29 odd
7.4	Integration of Rational Functions by Partial Fractions	553: 1–29 odd, 41-53 odd
7.5	Strategy for Integration	559: 1–59 odd
7.8	Improper Integrals	587: 1, 5–31 odd, optional 57-64
	Review Exercises	591: 1–25 odd, 51–59 odd

Chapter 8: Further Applications of Integrals

8.1	Arc Length	603: 1–17 odd
8.2	Area of a Surface of Revolution	611: 1–15 odd, 33

Chapter 10: Parametric Equations and Polar Coordinates

10.3	Polar Coordinates	730: 1–11 odd, 15–25 odd, 33–49 odd
10.4	Calculus in Polar Coordinates	737: 1–31 odd, optional 49-52
10.5	Conic Sections Section 10.6 is an instructor's option.	746: 1–47 odd
10.6	Conic Sections in Polar Coordinates	755: 1–21 odd
	Review Exercises	758: 11-17 odd, 33–41 odd, 49–59 odd

Remark: Some elements of sections 10.1 and 10.2 can be discussed as a general introduction to the curves covered in Chapters 8 and 10.

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