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

SYLLABUS: MTH 32 - Analytic Geometry and Calculus 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: <u>Calculus (Ninth Edition)</u> by Stewart et al., Cengage Learning. ISBN 978-1-337-62418-3 Students who do not need Math 33 may use <u>Single Variable Calculus</u> (Ninth Edition) by Stewart et al., Cengage Learning. ISBN 978-0-357-04291-5

SECTION TOPIC

Chapter 5: Applications of Integration

SUGGESTED EXERCISES

5.1 370: 1–29 odd Areas between Curves 5.2 Volumes 384: 1–33 odd, 66-72 Volumes by Cylindrical Shells 5.3 392: 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 429: 1, 7–13 odd, 23–49 odd, 79-89 odd Their Derivatives 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 The Natural Exponential Function 6.3* 465: 5-11 odd, 25-49 odd, 75, 79-89 odd General Logarithmic and Exponential 6.4* 476: 1-9 odd, 21-41 odd, 45-49 odd Functions 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 511: 1-4, 5-65 odd, 73-76 L'Hospital's Rule **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 imme	ediately 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	746: 1–47 odd
	Section 10.6 is an instructor's option.	
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.

Academic Integrity

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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: <u>disability.services@bcc.cuny.edu</u>, Loew Hall, Room 211, (718) 289-5874.

If you test positive for COVID while taking an in-person/hybrid course:

- Using your BCC email account, please email all your **in-person and/or hybrid** professors of your status.
 - Please include your emplid # and current phone number in your email.
 - Please also email us at <u>healthservices@bcc.cuny.edu</u>.
 - Your professor will work with you to complete class work while you are in quarantine.
- You will be called by a Health Services staffer. It is critical that you connect in a timely matter with this staff member for contact tracing information.
- You will need to submit a negative COVID test to Health Services (<u>healthservices@bcc.cuny.edu</u>) before you are allowed access to the campus.
- Your negative test result must come from your doctor or a medical provider (e.g. CityMD, Urgent Care, etc.). We will **not** accept a negative home test result.

10/2014 M.M. & I.P. - 08/2016 A.W. - 08/2022 R.G. - Last updated 08/18/2022 01/23 EA COVID