SUNY OLD WESTBURY

Department of Mathematics, Computer & Information Science

CALCULUS & ANALYTIC GEOMETRY I
MA 2310 Sections 1 and 2 • SYLLABUS SPRING 2018

Professor: **Frank Sanacory**
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Course Web Site: ***sanacory.net*** *Office Hours:* **MW 11:20PM – 12:50AM, T 1:00-2:00**

TEXTBOOK: Single Variable Calculus: Early Transcendentals, 2nd Edition, by Briggs, Cochran, and Gillett, published by Pearson 2014, ISBN-13: 9780321965172.

PREREQUISITES: A grade of C or better in Precalculus, MA 2090.

COURSE DESCRIPTION: Topics include functions and their graphs, limits and continuity, derivatives of polynomials, rational functions, algebraic functions, exponential & logarithmic functions, and trigonometric functions, applications of the derivative, definite and indefinite integrals, fundamental theorem of calculus.

COURSE OBJECTIVES: After successful completion of this course students should understand the meaning of limits, continuity, and derivatives and be able to use them to solve a variety of problems.

COURSE EVALUATION & GRADING: Your grade for the course will be based on your homework/quiz performance (13%), three tests (57%) and a comprehensive final exam (30%).

A = [94, 100] A- = [90, 93]	B+ = [87, 89] B = [84, 86] B- = [80, 83]	C+ = [77, 79] C = [74, 76] C- = [70, 73]	D+ = [67, 69] D = [64, 66] D- = [60, 63]	F = [0, 59]

CALCULATOR: No calculator is allowed.

TUTORIAL: Drop-in tutorial is available in the Mathematics Learning Center in the Library.

ACCOMMODATIONS FOR STUDENTS WITH SPECIAL NEEDS:
If you have or suspect you may have a physical, psychological, medical or learning disability that may impact your course work, please contact Stacey DeFelice, Director, The Office of Services for Students with Disabilities (OSSD), NAB, 2065, Phone: 516-628-5666, Fax (516) 876-3005, TTD: (516) 876-3083. E-mail: defelices@oldwestbury.edu.

The office will help you determine if you qualify for accommodations and assist you with the process of accessing them. All support services are free and all contacts with the OSSD are strictly confidential. SUNY/Old Westbury is committed to assuring that all students have equal access to all learning activities and to social activities on campus.

RESPECT: No cell phones in class and no texting.

FINAL EXAM: Date is Wednesday, May 16, 2018 in our regular classroom at the regular class time.

TOPICS COVERED

2. LIMITS
2.1 The Idea of Limits
2.2 Definition of Limits
2.3 Techniques for Computing Limits
2.4 Infinite Limits
2.5 Limits at Infinity
2.6 Continuity

3 . DERIVATIVES
3.1 Introducing the Derivative
3.2 Working with derivatives
3.3 Rules of Differentiation
3.4 The Product and Quotient Rules
3.5 Derivatives of Trigonometric Functions
3.6 Derivatives as Rates of Change
3.7 The Chain Rule
3.8 Implicit Differentiation
3.9 Derivatives of Logarithmic and Exponential Functions
3.10 Derivatives of Inverse Trigonometric Functions
3.11 Related Rates

4 . APPLICATIONS OF THE DERIVATIVE
4.1 Maxima and Minima
4.2 What Derivatives Tell Us
4.3 Graphing Functions
4.4 Optimization Problems
4.5 Linear Approximation and Differentials
4.6 Mean Value Theorem
4.7 L'Hôpital's Rule
4.9 Antiderivatives

5. INTEGRATION
5.1 Approximating Areas Under Curves
5.2 Definite Integrals
5.3 Fundamental Theorem of Calculus
5.4 Working with Integrals
5.5 Substitution Rule