SUNY OLD WESTBURY

OWN YOUR FUTURE

Department of Mathematics, Computer & Information Science

CALCULUS II

MA 2320 • SYLLABUS SUMMER 2023

Professor: **Frank Sanacory** *Office:* **NAB 2043**

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TEXTBOOK: Calculus Volume 2 1st Edition, by Gilbert Strang, Edwin Herman, et al. Publisher : OpenStax, March 30, 2016

https://openstax.org/details/books/calculus-volume-2

Prerequisite Grade of C or higher in Calculus & Analytic Geometry I - MA 2310.

COURSE DESCRIPTION: Topics include indefinite and definite integral, applications of definite integral, integration techniques, infinite series, and analytic geometry.

COURSE OBJECTIVES: To become proficient in integration and its applications, to learn about infinite sequences and series.

No Calculators are allowed in this course.

COURSE EVALUATION & GRADING: Your grade for the course will be based on your homework/quiz performance (15%), two tests (50%) and a comprehensive final exam (35%).

		B+	87-89	C+	77-79	D+	67-69		
A	93-100	B	83-86	C	73-76	D	63-66	F	0-69
A-	90-92	B-	80-82	C-	70-72	D-	60-62		

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.

TUTORING: Available in the MLC (Mathematics Learning Center) in the Library (McManusC@oldwestbury.edu) .

ACADEMIC INTEGRITY POLICY

As members of the Old Westbury community, students are expected to adhere to standards of honesty and ethical behavior. Plagiarism and other types of academic dishonesty are condemned at all academic institutions. These acts detract from the student's intellectual and personal growth by undermining the processes of higher learning and the struggle with one's own expression of ideas and information.
Good academic procedure requires giving proper credit when using the words or ideas of others. Plagiarizing means "presenting somebody else's words or ideas without acknowledging where those words and ideas come from" (Ann Raimes, Keys for Writers, 7th ed., p.135). Examples include:

- copying material from the Internet or other sources and presenting it as one's own
- using any author's words without quotation marks; using any quotation without credit
- changing any author's words slightly and presenting them as one's own
- using ideas from any source (even in one's own words) without proper credit
- turning in any assignment containing material written by someone else (including tutor or friend); buying work and submitting it as one's own
- submitting the same assignment in more than one class without permission of the instructor

Know what plagiarism is and how to avoid it; for guidance see Raimes or any other college writing handbook.
Other types of academic dishonesty include unauthorized collaboration or copying of students' work (cheating); falsifying grades or other assessment measures; destroying the academic work of another student; the dishonest use of electronic devices; and others. When detected and verified, plagiarism and other academic dishonesty will have serious consequences.
Please note: In this matter, ignorance of the Academic Integrity Policy is never an acceptable excuse.

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RESPECT: No cell phones in class and no texting.

FINAL EXAM: Will be held on Thursday, Jun 13 in your usual classroom

TOPICS TO BE COVERED

Review of some of Calculus I

Chapter 1 Integration

1.1 Approximating Areas
1.2 The Definite Integral
1.3 The Fundamental Theorem of Calculus
1.4 Integration Formulas and the Net Change Theorem
1.5 Substitution
1.6 Integrals Involving Exponential and Logarithmic Functions
1.7 Integrals Resulting in Inverse Trigonometric Functions

Chapter 2 Applications of Integration

2.1 Areas between Curves
2.2 Determining Volumes by Slicing
2.3 Volumes of Revolution: Cylindrical Shells
2.4 Arc Length of a Curve and Surface Area

Chapter 3 Techniques of Integration

3.1 Integration by Parts
3.2 Trigonometric Integrals
3.3 Trigonometric Substitution
3.4 Partial Fractions
3.7 Improper Integrals

Chapter 4 Introduction to Differential Equations (time permitting)

4.1 Basics of Differential Equations
4.2 Direction Fields and Numerical Methods
4.3 Separable Equations
4.4 The Logistic Equation
4.5 First-order Linear Equations

Chapter 5 Sequences and Series

5.1 Sequences
5.2 Infinite Series
5.3 The Divergence and Integral Tests
5.4 Comparison Tests
5.5 Alternating Series
5.6 Ratio and Root Tests

Chapter 6 Power Series

6.1 Power Series and Functions
6.2 Properties of Power Series
6.3 Taylor and Maclaurin Series
6.4 Working with Taylor Series

Chapter 7 Parametric Equations and Polar Coordinates

7.1 Parametric Equations
7.2 Calculus of Parametric Curves
7.3 Polar Coordinates
7.4 Area and Arc Length in Polar Coordinates
7.5 Conic Sections