**Department of Mathematics, Computer & Information Science**
# CALCULUS  & ANALYTIC GEOMETRY II
# MA2320 • SYLLABUS FALL 2013

*Professor:* **Frank Sanacory**
*Office:* **NAB 2014**                              *Telephone:* **(516) 876-3968**
*Email:* SanacoryF@oldwestbury.edu         *Office Hours* **MTW 10:20 am – noon**
*Course Web Page* **https://sanacory.com/math**

**TEXTBOOK:**
Calculus: Early Transcendentals, Single Variable, by Briggs and Cochran,
ISBN: 9780321664143
*Prerequisite* Grade of C or higher in MA 2310 Calculus & Analytic Geometry I.

**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.

**COURSE EVALUATION & GRADING:** Your grade for the course will be based on
your homework/quiz performance (10%), three tests (50%) and a comprehensive
final exam (40%).

| A   93 - 100 | B+  87- - 89 | C+  77- 79 | D+  67 - 69 | F    0 - 59 |
|---|---|---|---|---|
| A-  90 - 92 | B   83- - 86 | C   73- 76 | D   63 - 66 | |
| | B-   80- - 82 | C-  70- 72 | D-   60 - 62 | |

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

**ACCOMMODATIONS FOR STUDENTS WITH SPECIAL NEEDS:**
If you have, or suspect you may have a physical, psychological, medical or learning
disability that may impact how you function academically and/or your access to
activities on campus, please contact Dr. Lisa Whitten, Director of the Office of
Services for Students with Disabilities (OSSD). She will determine whether or not you
qualify for academic accommodations and arrange them with your professors if you
do. The OSSD is located in the NAB, Room 2064. You can reach Dr. Whitten at 516-
876-3009 or whittenl@oldwestbury.edu.

**RESPECT:**  No cell phones in class and no texting.  And no calculator will be needed
for this course.

**FINAL EXAM:** Will be held Monday December 16 in our regular classroom at the
regular class time.

**TOPICS TO BE COVERED**
**TEXTBOOK :** Calculus: Early Transcendentals, Single Variable, by Briggs and Cochran,  ISBN: 9780321664143
**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
**APPLICATIONS OF INTEGRATION**
     6.1 Velocity and Net Change
     6.2 Regions between Curves
     6.3 Volume by Slicing
     6.4 Volume by Shells
     6.5 Length of Curves
**INTEGRATION TECHNIQUES**
     7.1 Integration by Parts
     7.2 Trigonometric Integrals
     7.3 Trigonometric Substitution
     7.4 Partial Fractions
     7.5 Other Integration Strategies
     7.7 Improper Integrals
**SEQUENCES AND INFINITE SERIES**
     8.1 An Overview
     8.2 Sequences
     8.3 Infinite Series
     8.4 The Divergence and Integral Tests
     8.5 The Ratio and Comparison Tests
     8.6 Alternating Series
**POWER SERIES**
     9.1 Approximating Functions with Polynomials
     9.2 Power Series
     9.3 Taylor Series
     9.4 Working with Taylor Series
**PARAMETRIC AND POLAR CURVES**
     10.1 Parametric Equations
     10.2 Polar Coordinates
     10.3 Calculus in Polar Coordinates
     10.4 Conic Sections