



Department of Mathematics, Computer & Information Science
ADVANCED CALCULUS I
MA 5320 • SYLLABUS FALL 2016

Professor: **Frank Sanacory**

Office: **NAB 2014**

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Course Web Site: sanacory.net *Office Hours:* **TR 1-2:30, W 3:50-4:50**

TEXTBOOK: **Understanding Real Analysis** by Paul Zorn, first edition, 2010. ISBN 978-1568814155.

PREREQUISITES: MA 3520: Transitions to higher mathematics.

COURSE DESCRIPTION: We study Calculus with rigor. We will generate the real numbers axiomatically and give a formal description of their properties which we have taken for granted all these years. Then we will learn definitions of open sets, compact sets and what it means to be "near" a number. We will approach everything with absolute rigor and use this base to formulate the ideas of sequences and convergence, continuity of functions, derivatives, the Riemann integral and fundamental theorem of calculus. We will glimpse into the workings of higher mathematics and to learn how to read a definition and how to read a proof, as well as use these definitions and theorems in simple exercises.

COURSE OBJECTIVES: After successful completion of this course students should have basic understanding of the rigorous definitions and meanings of functions, limits, derivatives, Riemann integration, continuity and some topology. Also the student should be able to complete a variety of proofs from set theory and function proofs to topology and calculus.

COURSE EVALUATION & GRADING: Your grade for the course will be based on your homework/quiz performance (15%), two tests (45%) and a comprehensive final exam (40%).

CALCULATOR: No calculator is allowed.

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

ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES:

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: Will be held Tuesday, December 20, 2016 in our regular classroom at the regular class time.