SUNY OLD WESTBURY

Department of Mathematics, Computer & Information Science

ADVANCED CALCULUS I
MA 5320 • SYLLABUS FALL 2015

Professor: **Frank Sanacory**
Office: **NAB 2014**   *Email:* SanacoryF@oldwestbury.edu
Course Web Site: **sanacory.net**   *Office Hours:* **MW noon – 1:00PM, TR 1:00PM - 2:30PM**

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 closed 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 **H211a**.

OFFICE OF SERVICES FOR STUDENTS WITH DISABILITIES: SUNY/Old Westbury is committed to assuring that all students have equal access to learning and extracurricular activities on campus. 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 work with you to determine which accommodations you need, and provide you with documentation for your professors. The OSSD is located in the NAB, Room 2064. OSSD services are free and confidential. In addition, we hire qualified note takers at $100.00 for the semester if you are enrolled in the course, and $9.00 an hour if you are not. You can reach Dr. Whitten at 516-876-3009 or whittenl@oldwestbury.edu.

RESPECT: No cell phones in class and no texting.

FINAL EXAM: Will be held December 15, 2015 in our regular classroom at the regular class time.