MAT {319,320}: {Foundations of, Introduction to} Analysis
Stony Brook, Fall 2008

Text: *Introduction to Real Analysis (Third Edition)*, by R. Bartle & D. Sherbert.

About this course: Both MAT 319 and 320 provide a closer, more rigorous look at the fundamental concepts of one-variable calculus. The main focus will be on the key notions of convergence and continuity; the basic facts about differentiation and integration will be presented as examples of how these notions are used. The course provides a good opportunity for students to learn how to read and write rigorous proofs. MAT 320 prepares them for further studies in analysis. Both courses are writing intensive; all students will have the opportunity to complete the proof-oriented component of the Department of Mathematics upper division writing requirement.

MAT 319 and MAT 320 will be taught together to begin with. The first Midterm will be taken by all students in class in early October. The lecture in the following week will still be joint, but after that the classes will split. Students will divide into sections depending on their choice, aptitude, the lecturers' recommendations. (Special arrangements have been made with the Registrar to permit this late change of registration.)

Since the syllabus of MAT 319 is less crowded than that of MAT 320, it of course will go more slowly. Students in MAT 319 will also be expected to complete a project. However MAT 319 will not provide as good a foundation for the more advanced subsequent courses in the major such as MAT 322, MAT 324, MAT 364 and (typically) MAT 401/2. Any student who is contemplating going to graduate school in a mathematics-related field is strongly advised to take MAT 320.

Reading: The textbook is intended to be read. Read the assigned sections **before the lecture!** This will greatly increase your comprehension, and enable you to ask intelligent questions in class. Furthermore, the lectures will not always be able to cover all of the material for which you will be responsible.

One of the goals of this course is to help sharpen your abilities at reading written mathematics. If you are having trouble reading the text, please discuss this with one of the lecturers or TAs.

Examinations and grading: Both courses will have two midterms (worth 25% each), weekly homeworks (worth a total of 15%), and a final (worth 35%). In MAT 319, students will do a project, the grade of which will be worth 10% of the final (so really the final is worth 25%).

Instructors:

MAT 319	Scott Sutherland	Math 5-112, 632-7306	scott@math.sunysb.edu
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MAT 320	Qian Wang	Math 4-120, 632-4005	qwang@math.sunysb.edu
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Disabilities: If you have a physical, psychological, medical, or learning disability that may impact your course work, please contact Disability Support Services at `http://studentaffairs.stonybrook.edu/dss/` or (631) 632-6748. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential.

Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and Disability Support Services. For procedures and information go to the following website:
`http://www.stonybrook.edu/ehs/fire/disabilities.shtml`

Academic Integrity: Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty are required to report any suspected instances of academic dishonesty to the Academic Judiciary. For more comprehensive information on academic integrity, including categories of academic dishonesty, please refer to the academic judiciary website at
`http://www.stonybrook.edu/uaa/academicjudiciary/`