INTRODUCTION TO REAL ANALYSIS I

Class web page:  http://math.rutgers.edu/courses/311/311-s16/speer/

Instructor:  Professor E. Speer  Office:  Hill Center 520
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Office Hours:  Monday, 9:00–10:00 AM, Hill Center 520
              Thursday, 10:20–11:40 AM, Hill Center 520
              Friday, 9:00–10:00 AM, Hill Center 520
Or by appointment or chance in Hill Center 520


General:  The primary aim of this course (and of its successor, 640:312) is to teach you the rigorous foundations of calculus—foundations which were omitted in your earlier calculus courses. We will give precise definitions of the concept of a limit and of such concepts as the continuity and differentiability of functions, and will prove some of the many consequences which may be deduced from these definitions. A secondary aim is to improve your skills in reading and understanding mathematics written by others and in writing precise definitions and rigorous proofs of your own.

Workshops:  Our Wednesday class is a workshop. The workshop instructor is Nathaniel Shar; his office is Hill Center 535 and his email address is nshar@math.rutgers.edu. He will spend twenty-five minutes or so discussing homework, then ask you to form small groups to work cooperatively on problems. Workshops are an integral part of the course; on time attendance at them and participation in them is mandatory. More than one unexcused absence from a workshop will affect your grade; you can expect to be excused for reasons of illness or when winter weather makes travel dangerous or impossible.

Homework:  Homework problems will be assigned weekly via posting on the class web page given above. The problems are to be handed in at the beginning of the workshop.

Writing up problems:  One workshop problem is to be written up and handed in the next week and, as said above, homework problems are to be written up and handed in weekly. See the attached sheet for a discussion of how to write up the workshop and homework problems you hand in.

Academic Integrity:  You will work cooperatively on workshop problems and are encouraged to discuss homework problems with me, with Nathaniel, and with other students. After you have finished discussing a problem, however, you must write your solution independently, not in concert with others. Your ideas and approach to the problem may come from discussion, but you should express those ideas in your own words. If you consult any source, such as a web page, you must properly acknowledge this, giving a full citation, and again, your write-up must be in your own words, not copied from a source. Failure to observe these rules will be considered a violation of Rutgers’ Academic Integrity policies.

Exams:  There will be two in-class exams, on Friday, February 19 and Friday, April 1; the final exam is on Wednesday, May 11, from 8:00 to 11:00 AM. Make-up exams will be given only in the case of well-documented illness or major emergency or (only with permission in advance) of a major outside commitment.

Grading:  Grading will be based on a weighted average of homework and exams:

- Homework ................................................................. 20%
- Class exams ........................................................... 20% each
- Final exam ............................................................... 40%