INSTRUCTOR: R. Brooks
Office: 207 JWB, Ph: 581-7915 Hours: 9:30-10:30, after class, and by appointment
e-mail: brooks@math.utah.edu
Class Room and Hours: AEB 350, 10:45-11:35 A.M. MTWF

TEXT: Foundations of Analysis, by J. L. Taylor

COURSE CONTENT: We shall be covering most of the material in chapters 1-6 of Taylor. I have (in my mind) broken the course into four parts as follows:

I Chapters 1 and 2 (The Real Numbers and Sequences)
II Chapters 3 and 4 (Continuous Functions and Derivatives)
III Chapter 5 (Integration)
IV Chapter 6 (Infinite Series-including series of functions)

HOMEWORK: This course has two distinct emphases (and purposes): (1) to solidify your ideas about analysis (its bases, fundamental theorems and concepts) and (2) to introduce you to the notion of (rigorous) proofs. To aid you in achieving some degree of facility in “proving theorems” I will be suggesting some problems each class meeting for you to consider, of two types (1) to be handed in and (2) for your benefit. The HW problems (= to be handed in) suggested on Monday (Wednesday, Friday) will due on Wednesday (Friday, Monday). Occasionally, on Tuesday I will add a problem to those due on Wednesday. These I will read and “grade”. The OTHER problems we can discuss at the beginning of the class following the one in which they were suggested, if they caused difficulty for anyone.

A couple of comments. (1) My grading of the HW problems is not the most important thing about them; your struggling (at least at first) to put together a logical and coherent proof of a theorem is much more important. The grading is only a method for encouraging you to work on the problems long enough to get past the point of feeling completely frustrated by an “unreasonable assignment”. (2) Re working together: I have no problem with your getting together to discuss the HW homework problems. (In fact, I encourage you to form small groups so that you can help one another in figuring out the best method for attacking a “problem” (read, “proof”).) However, you should write up your solutions separately. Simply copying the write-up of Eduardo or Evangeline (who write well) will not help you become more proficient at communicating mathematics to another person.

EXAMS: I am planning on having midterm exams at the end of each of Parts I-IV listed in the outline above. I cannot say at this time when these will be. They will be a mixture of in-class/closed-book exams and take-home exams. They will be equally weighted (I usually use 50 points.)

FINAL EXAM: There will be a final exam to be given (or handed in, depending on the exact nature of the exam) on Thursday, April 28 (10:30-12:30 if the exam is in-class). Its weight will be half of the total weight of the midterm exams (see below).
RE TAKE-HOME EXAMS: A take-home exam is, first of all, an EXAM. You are to work alone. (This means that you should not discuss the exam questions with anyone except me.) You should use no books except the text for this course (namely, Taylor) and no notes except those you have taken in class (or which I have handed out). Of course, you may use any problems already worked and may refer to them in lieu of re-doing them. If I encounter a situation in which I am "morally certain" of collaboration, I will assign a grade of zero on the exam to those involved. If, from reading the exam papers, I get the feeling that there is a pattern of "working together", the remainder of the exams will be of the in-class variety (including the final exam).

COURSE GRADE: Your work in this course has three components weighted as follows
  Midterm exams -- 40% (average of the three best (out of four) midterm exams)
  Homework --------- 40%
  Final exam --------- 20%

ADA STATEMENT: The Americans with Disabilities Act requires that reasonable accommodations be provided for students with physical, cognitive, systemic, learning, and psychiatric disabilities. Please contact me at the beginning of the semester to discuss any such accommodations you may require for this course.