The Georgia Institute of Technology
Spring 2012
Math 6338 - Real Analysis II
Lecture: Room: Skiles 154 - Time: MWF 3:05pm – 3:55pm

Instructor: Brett D. Wick
Office: Skiles 224
Office Phone: 404-864-4311
Office Hours: MWF 11:00am – 12:00pm
Email: wick@math.gatech.edu or by appointment

Text: There will be no required text for the course. There are many reasonable texts for this course that the student could consult. Potential texts include:

- *Introductory Functional Analysis with Applications* by Kreyszig;
- *A Course in Functional Analysis* by Conway;
- *Functional Analysis* by Rudin.

Prerequisite and Description: Math 6338 is an introduction to graduate real analysis. Topics covered include: Basics of measure theory; $L^p$ spaces: Completeness, Riesz representation and the dual of $L^p$, Hölder’s, Jensen’s, and Minkowski’s inequalities; Topological spaces, normed vectors spaces, compact spaces and the Tychonoff theorem. Linear functionals, Banach and Hilbert spaces, orthonormal bases and orthogonal projections in Hilbert spaces. Basic theorems of functional analysis, including the Hahn-Banach, Baire Category, and open mapping theorems and the uniform boundedness principle.

Prerequisites for the course are Math 4318 (Undergraduate Analysis II) or consent of the School.

Attendance: Attendance is required for all lectures. The student who misses a class meeting is responsible for any assignments and/or announcements made. Office hours will not be utilized to re-teach material presented in class. However, questions to better understand the course are always welcome.

In the event of an absence that will impact your ability to complete your assignments due to travel representing Georgia Tech, you must notify the professor at least two weeks in advance to arrange an early test or other alternative. Otherwise, such absences will be treated as personal.

Homework: This course will have weekly homework assignments that will be collected and graded.

Exams: This course will have two mid-term exams, and a comprehensive final exam. The exams for the course will take place on:
Exam Dates:

Exam 1        February 13, 2012
Exam 2        April 2, 2012
Final Exam   Friday, May 4 2012 2:50pm - 5:40pm

Learning Disabilities: It is the right of any student with a certified learning disability to request necessary accommodation. Such requests must be made well in advance of the time that the accommodation is required and a letter of documentation from the ADAPTS office must be presented at the time of any request.

Academic Honesty: It is expected that all students are aware of their individual responsibilities under the Georgia Tech Academic Honor Code, which will be strictly adhered to in this class.

Grades: The usual ten-point scale will be used (A: 90-100, B: 80-89, C: 70-79, D: 60-69, F: 0-59), however, if necessary, adjustments will be made to arrive at a standard grade distribution. Grades will be based upon attendance, participation, and exams and homework. An approximate grade break down will be 40% for homework, 15% for each midterm, and 30% for the final exam. This is break down may change to arrive at a suitable grade distribution.

Important Dates for Spring 2012:

January 9    First day of classes
January 13   Last day to register and/or make schedule changes
January 16   School Holiday
March 2      Last day to drop or withdraw with a grade of “W”
March 14     Last day to withdraw from school with a grade of “W”
March 19-23  Spring Break
May 4        Final Exam