Math 6210: Real Analysis

Instructor: Peter Trapa, LCB 118, 5-7671, ptrapa@math.utah.edu

Office hours: By appointment.

Course webpage: www.math.utah.edu/~ptrapa/6210/

Grading: Your course grade will be determined by problem sets (75%) and a final exam (25%). The final exam will be two hours and will be designed to simulate the real analysis portion of the departmental preliminary exams.

Text: *Real and Complex Analysis*, 3rd edition, by W. Rudin, published by McGraw-Hill. You can buy the hardcover US edition in the bookstore for about $130. Alternatively you may buy an international softcover edition for about $35 on Amazon. (Click on the "Used and New" link.) Scanned copies probably exist online somewhere.

Content: This will be a standard course in real analysis and will cover abstract measure theory, abstract integration theory, Hilbert and Banach space techniques, and Fourier analysis on the real line and circle. Very roughly we will cover the first nine chapters of Rudin's book. Chapter 1 is rather abstract, so we'll supplement it with some concrete examples (mostly related to Haussdorff measure and dimension). Ideally we will finish with a careful treatment of the Plancherel Theorem (in Chapter 9 of Rudin). This probably means we'll have to skip large parts of Chapters 6 and 7.

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