

*COURSE ANNOUNCEMENT*

FALL 2008

MAT 570

# Real Analysis I

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**Instructor:** John Quigg  
**Time:** 12:00 - 1:15 Tuesday & Thursday  
**Location:** ECG 315  
**Class Number:** 76002  
**Credits:** 3

**Course Description:** This is the first half of a basic graduate-level course in real analysis. The central topic is the abstract theory of measure and integration; the main examples are Borel measures on the real line, and in particular Lebesgue measure. This is fundamental material which has applications virtually everywhere in pure and applied mathematics.

We will cover chapters 1, 2, 3, and parts of chapters 5 and 6 (and maybe more), of Folland.

**Prerequisites:** A solid understanding of Advanced Calculus, i.e. MAT 371 or MAT 472, is required before taking MAT 570. The student should be completely comfortable with the notion of least upper bound in the real numbers, and its consequences for continuity, differentiation, Riemann integration, and uniform convergence. Basic knowledge of metric space topology (open and closed sets, Cauchy sequences, compactness), at least in Euclidean space, will be assumed.

**Textbook:** G. Folland, *Real analysis*, 2nd Edition, Wiley.