

*COURSE ANNOUNCEMENT*

FALL 2008

MAT 472

# Intermediate Real Analysis I

**Instructor:** Sergei Suslov  
**Time:** 10:30 - 11:45 Tuesday & Thursday  
**Location:** Social Sciences 205  
**Class Number:** 75987  
**Credits:** 3

**Course Description:** This course covers the fundamentals of analysis in metric spaces, with emphasis on the real line. Among the most important topics are continuity, compactness, uniform continuity, uniform convergence, and differentiation and Riemann integration of functions of one real variable. Advanced topics may include, but are not limited to: the Baire Category Theorem, the Weierstrass Approximation Theorem, and the Arzela-Ascoli Theorem.

One of the primary functions of this course is to prepare students for graduate-level real analysis (MAT 570). The course also serves as preparation for the first half of the department's graduate qualifying exam in Real Analysis.

**Prerequisites:** MAT 300 (Mathematical Structures) and MAT 342 (Linear Algebra). MAT 371 (Advanced Calculus) is also strongly recommended, although it is not a formal prerequisite. Many students find MAT 371 useful as an introduction to both the subject matter of MAT 472, and to the process of reading mathematics and constructing proofs.

**Textbook:** To Be Announced.

**Other References:**

*"Introduction to Analysis"*, by E. D. Gaughan, Brooks-Cole, 1998.

*"Introduction to Analysis"*, by M. Rosenlicht, Dover, 1986.

*"Principles of Mathematical Analysis"*, by W. Rudin, 3rd ed., McGraw-Hill, 1976.