

**Foundations for Higher Mathematics**  
*and*  
**Introduction to Mathematics Writing**  
**Math 310/310W, Fall 2006**

**Class Time and Location:**

TTh: 11:30 AM- 1:00 PM Rebstock 322, Monday 11 AM -12 PM  
Cupples I 216 (Writing component).

**Textbook:**

Transition to Higher Mathematics: Structure and Proof by Bob Dumas and John M<sup>c</sup>Carthy. Mc Graw Hill.

**Instructor:**

Ravindra, Office: 114, Cupples I Ph. 935-8120, e-mail: ravindra AT math DOT wustl DOT edu

**Office Hours:**

Thurs 2:00-3:00 PM and by appointment, Room 114, Cupples I

**Brief Description of Course:**

The purpose of this course is to bridge the gap between calculation-oriented lower-division work in mathematics and theory-oriented upper division work. This course is an introduction to mathematical abstraction. We consider logic, set-theory, axiomatics, number systems, and proofs.

The purpose of Math 310W, in addition to covering the material from Math 310, is to introduce you to the kind of writing that mathematicians do. Mathematical writing requires stringent precision and organizational skills, as well as considerable imagination. We will also learn the computer typesetting language  $\text{\TeX}$ , which is almost universally used today to create mathematical texts. The course work shall cover in addition to the regular work in Math 310, writing three or four papers on mathematical topics. All submitted work will be in  $\text{\TeX}$  and will be about five pages long. Each paper will be submitted, graded, revised, re-submitted and regraded. Your work in Math 310 W will count for 25 % of the total course grade.

**Homework:**

Weekly homework shall be assigned.

**Exams:**

Two exams will be given in class during the semester. These will be held on (tentatively) Tuesday, October 3 and Tuesday, November 14.

**Grading System:**

Your grade will be based on the following. Homework (20 %), Exams (80%: 20+20+40). The final score and letter grade for the course will be determined as follows.

- A if final score is at least 85%.
- B if final score is at least 75% but less than 85%.
- C if final score is at least 65% but less than 75%.
- D if final score is at least 50% but less than 65%.
- F if final score is less than 50%.