Math 131A, Analysis MWF 1-1:50 MS5517

Instructor: Dimitri Shlyakhtenko, <u>shlyakht@math.ucla.edu</u>, MS7901 Office hours: Monday, 10-11, Wednesday 3-4, Friday, 11-12. Course web page: <u>http://www.math.ucla.edu/~shlyakht/131a.3.03f</u>

This course is an introduction to mathematical analysis. The goal of the course is to give a rigorous and in-depth presentation of the mathematics touched upon in calculus courses. The emphasis of this course is on learning how to formulate and prove rigorous mathematical statements. Homework is a very important part of the course, since this is the only way for you to learn to invent and write proofs. Homework will be due on Mondays.

The course grade will be based on two midterms (25% each), the final (30%), quizzes and homework (10% each). Two lowest homework scores and one lowest quiz score will be dropped before computing the grade.

Week of	We cover	Homework due Monday of next week	Notes
09/26/03	See notes	none	
09/29/03	1.1, 1.2, 1.2	1.1: 1, 3, 7, 8, 10, 11; 1.2: 1, 2, 3, 5, 6abc, 8, 10ab	
10/06/03	1.3, 1.3, 1.4	1.3: 1, 2, 5, 6, 9; 1.4: 1, 3, 4, 5, 8, 11, 12	
10/13/03	2.1, 2.2, 2,2	2.1: 2ab, 3cd, 5, 6, 7, 9; 2.2: 1ab, 2c, 3, 4, 6, 8	
10/20/03	M1, 2.4, 2.5	 2.4: 1, 5, 6, 7, 10, 12; Assume that a sequence {a_n} is such that for all ε>0, there exists an integer n₀ so that for all n>n₀, /a_n-a_{n-1}/< ε. Does it follow that the sequence converges? 2.5: 1, 2, 3, 4, 6. 	Midterm 1: 10/20/03, §1.1- §2.2
10/27/03	2.6, 2.6, 3.1	2.6: 1, 2, 3, 5, 8, 9, 13; 3.1: 2, 3, 4, 5;	
11/03/03	3.1, 3.2, 3.2	3.1: 7, 8, 10, 13; 3.2: 2, 4, 6, 7, 10, 11, 13	
11/10/03	3.3, 3.3, 3.3	3.3: 1, 2, 3, 6, 9, 12a, 13, 15	
11/17/03	M2, 4.1, 4.1	4.1: 1, 2, 4, 5, 6, 7, 8	Midterm 2: 11/17/03, §2.4- §3.3
11/24/03	4.2, 4.2, holiday	4.2: 1, 3, 4, 5, 6, 7, 10, 12,13	
12/01/03	5.6, review	(due 12/7) 5.6: 1, 2, 7, 9, 14, 15	
Final exam (comprehensive): Wednesday, December 10, 2003, 8:00:00 AM - 11:00:00 AM room TBA			

Class Calendar