

## **CSE 5311.002: ADVANCED ALGORITHMS**

Fall 2005: Tuesday-Thursday 11:00 am -12:20 pm, RH 315

### Course Syllabus:

- Review of Asymptotic Analysis and Growth of Functions; and Trees and Heaps
- Recurrences and Sorting Algorithms
- Graph Algorithms and Maximum Flow Networks
- Greedy Algorithms and Dynamic Programming, and Amortized Analysis
- Algorithms for String Matching and Computational Geometry
- Matrix Operations and Linear Programming
- NP Completeness and Approximation Algorithms
- (Time Permitting) Special Topics: Applications of Algorithms in
  - Databases
  - Information Retrieval and Web Searching
  - Data Mining and High-Dimensional Computational Geometry