Notes on Exam 4, Math 554, Summer 2004

1. Exam 4 is Thursday, June 24, and it covers sections 3.1, 3.2, and 4.1.

2. Be able to define "open set", "closed set", "closure", and "dense set", "compact", "$\lim_{x \to p} f(x) = L$".

3. Be able to STATE: the theorem which characterizes the closed sets of $\mathbb{R}$ in terms of information about the limit points, the Heine-Borel Theorem, the Theorem which completely characterizes the compact subsets of $\mathbb{R}$, the Theorem which relates the limit of a function and the limit of various sequences.

4. Be able to PROVE: the Heine-Borel Theorem.

5. The material on the old exams which is covered on your exam 4:
   (a) Exam 3 (2004): 3, 4, 5.
   (b) Exam 4 (2000): 1, 2, 3, 4, 5, 6, 7.
   (c) Final Exam (2000): 1, 2, 3, 7, 10, 12, 13, 15.