Mathematics 4530
Assignment 8, due October 29, 2013

Read Section 29. Skim Sections 30–32, mostly for terminology. Read Section 33. Then do:

- p. 186: 2
- p. 194: 4, 5(a)
- p. 199: 1, 2
- p. 205: 3
- p. 213: 4 (e.c.)

Additional problem:

Let X be a compact space, and suppose there is a finite family of continuous functions $f_i \colon X \to \mathbb{R}$, $i = 1, \ldots, n$, with the following separation property: Given $x \neq y$ in X there is an i such that $f_i(x) \neq f_i(y)$. Show that X is homeomorphic to a subspace of $\mathbb{R}^n$.