ELEG 646; **ELEG 446** - Nanoelectronic Device Principles – Spring 2011

Homework #6 - due Friday, 25 March 2011, in class

1. Problem 4.2, (a) and (d) only in chapter 4, Muller & Kamins, p. 222 in 3rd edition. (Hint, use the expression for φ for one side heavy doping on page 188).

2. Problem 4.7 in chapter 4, Muller & Kamins, p. 222 in 3rd edition.

3. Problem 5.5 in chapter 5, p. 275 of Muller, Kamins & Chan (3rd edition). Hint, using approximations for n, p in very high level injection, find the "effective lifetime", where capture rate $U = n'/\tau_{eff}$. Do only for the special case that $\sigma_n = \sigma_p = \sigma$.

4. Problem 5.11 (a) and (b) only in chapter 5, Muller & Kamins, p. 276 in 3rd edition. (Note: keep good records because the other sections of this problem will be assigned next week.)

Homework assignments will appear on the web at:
http://www.ece.udel.edu/~kolodzey/courses/eleg646s11.html

  Include your name, due date, assignment number, and course number on each submission.