ELEC 7450 Midterm

You may bring in two handwritten 3"x5" cards.

Topics:

1. Introductory considerations
   (a) representation — resolution & bits
   (b) image capture methods and issues
   (c) image display methods and issues
   (d) perception
2. Signals & systems principles for images
   (a) basic signals and systems — 1-D, 2-D, discrete, & continuous
   (b) convolution
   (c) Fourier transforms and properties
   (d) sampling
   (e) nonideal sampling
   (f) reconstruction from samples
   (g) DFT & FFT & properties
   (h) Circular convolution & linear convolution w/ DFT
3. Enhancement techniques
   (a) enhancement definition
   (b) pointwise transformations
   (c) histogram equalization
   (d) algebraic operations
   (e) spatial operations
   (f) combinations of operations
4. Geometric mappings
   (a) geometric transformations
   (b) interpolation
   (c) control-point specification
   (d) zooming