ELEN 444-Ji Tentative Class Schedule (08 S)

Read textbook sections according to the assignment given every Monday

Week	Sections*	Topic
1-2	1.1	Overview of DSP
	1.2	Basic signals and systems,
	1.3	Frequency response and digital frequency
	4.1	Fourier transform
	4.3	Fourier Series
	4.1, 4.2	Complex numbers and variables, Frequency analysis
3-4	4.4, 4.5	Properties of Fourier analysis
	1.4.1, 1.4.2	Sampling theorem
	4.2.9	Sampling theorem (cont.)
	2.3	Linearity, shift-invariance, stability and causality
	2.2, 2.4	Difference equation description
	2.4	Solution to difference equation
5-6	2.3	Convolution and unit-pulse response
	3.1, 3.5	1-side z-transfrom
	3.2, 3.4.3	Region of convergence (ROC) and inverse z-transform
7	3.1	2-sided z-transform
	3.4	Inverting 2-sided z-transform
	3.3	Convolution via 2-sided z-transform
8	3.3	Poles and zeros
	4.2.3	Discrete-time Fourier transform (DTFT)
	4.3	Properties of DTFT
9	4.4.1, 4.4.5	Analog frequency response of LTI system
	5.1	Discrete Fourier transform (DFT)
	4.26, 5.2	Relationship between various transforms

Week	Sections*	Topic
10		
	6.1	FFT
	6.2	FFT
11	7.1, 7.2, 7.3	Filter structures
	4.5, 8.1	Filter theory and specification
	8.1, 8.2.1	Generalized linear phase and FIR filter coefficient symmetry
12	8.2.1	Generalized linear phase and FIR filter coefficient symmetry
	8.2.2	Window design of FIR filters
	8.2.4	Equiripple FIR design
13-14	8.3	Design IIR filters from analog filters
	8.3.2	Impulse invariance design
	8.3.3, 8.3.6	Bilinear transformation (BLT) IIR filter design; Frequency transformation
	1.4, 9.2, 9.3	A/D, D/A and hardware implementation
		Applications of DSP
Last class		Project presentation

* Read corresponding chapters in textbook before class