

GEORGIA INSTITUTE OF TECHNOLOGY

School of Electrical and Computer Engineering

ECE 8873 – Data Compression & Modeling – Spring Semester, 2004 – Professor B.H. Juang

Tentative Course and Homework Schedule

January	5	Review of probability theory	
	7	Review of random processes	
	12	No class	See assignment sheet
	14	No class	
	19	School holiday	
	21	Introduction to data compression and review of information theory	
February	26	Concept of source modeling	
	28	Lossless compression - Code structures, Huffman, etc.	
	2	Lossless compression – dictionary methods	
	4	Predictive coding; introduction to lossy compression	
	9	Distortion measures	
	11	Fundamentals of quantization; scalar quantization	
	16	Vector quantization	
	18	Differential coding; predictive coding	
March	23	Transform coding	
	25	Subband and wavelet-based compression	
	1	Signal compression with source modeling - speech	
	3	Source modeling - Hidden Markov Models	
	8	Spring Break	
	10	Spring Break	
	15	Video compression	
	17	Standards Presentation – LPC10, MELP	
	22	Standards Presentation – CELP, G.729	
	24	Standards Presentation – G.722/AMR-WB, PAC/AAC	
April	29	Standards Presentation – JPEG/JPEG2000, H.120/H.261	
	31	Standards Presentation – MPEG-1, H.262/MPEG-2/HDTV	
	5	Standards Presentation – H.263-4, MPEG-4	
	7	Standards Presentation – MPEG-7, Current activities (IP)	
	12	Software presentation and demos	
	14	Software presentation and demos	
	19	Software presentation and demos	
21	Software presentation and demos		