

MIR COURSE SCHEDULE - January, Winter 2015

George Tzanetakis

*(Draft, January 10, 2015, schedule is subject to change during the course)*

Jan	05	M	Overview, history and tasks, grading	
Jan	07	W	DSP I Phasors, sinusoids, complex numbers	
Jan	08	R	DSP II Sampling, Quantization, RMS, loudness	
Jan	12	M	DSP III DFT, Hilbert Spaces and Spectrograms	
Jan	14	W	Monophonic pitch analysis / autocorrelation	
Jan	15	R	Audio Feature Extraction (MFCC, Spectral)	A1
Jan	19	M	Project discussion	
Jan	21	W	Data Mining I (generative classification)	
Jan	22	R	Data Mining II (discriminative classification)	
Jan	26	M	Symbolic music representations	
Jan	28	W	Text Feature Extraction	
Jan	29	R	Music Classification	

MIR COURSE SCHEDULE - February, Winter 2014  
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Feb	02	M	Clustering	A1 / A2
Feb	04	W	Auto-tagging	
Feb	05	R	Multi-modal classification	P1
			READING BREAK	
Feb	16	M	Rhythmic Analysis I (onset detection, tempo estimation)	
Feb	18	W	Rhythmic Analysis II (beat tracking, pattern detection)	
Feb	19	R	Sequence mining (DTW, HMM)	
Feb	23	M	Query-by-humming	A2/A3
Feb	25	W	Pitch representations/chroma	
Feb	26	R	Audio-Score Alignment	

MIR COURSE SCHEDULE - March, April Winter 2014  
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Mar	02	M	Chord and Key Detection	
Mar	04	W	Cover Song Detection	
Mar	05	R	Evaluation and MIREX	
Mar	09	M	Segmentation and Structure Analysis	A3/A4
Mar	11	W	Sound Separation I	
Mar	12	R	Sound Separation II	P2
Mar	16	M	Auditory Scene Analysis	
Mar	18	W	Project Discussion	
Mar	19	R	User modeling (user studies, collaborative filtering) (A4 due)	
Mar	23	M	Visualization and dimensionality reduction techniques	A4
Mar	25	W	Interactive MIR interfaces	
Mar	26	R	Computational Ethnomusicology	
Mar	30	M	Computer Musicianship	
Apr	1	W	Audio Fingerprinting and watermarking	
Apr	2	R	Symbolic classification and musicology	

Final Project report due on April 10 - P3

A1, A2, A3, A4 = Assignments A1/A2 means A1 is due and A2 is posted

P1, P2, P3 are the phases of the project

Topics not covered: stereo + production analysis, software frameworks, web-services, industrial activity