

MIR COURSE SCHEDULE - January, Winter 2014  
 George Tzanetakis  
 (Draft, January 6, 2014)

Jan	06	M	Overview, history and tasks, grading	
Jan	08	W	DSP I Phasors, tuning forks, sines, complex numbers	
Jan	09	R	DSP II Sampling, Quantization, RMS, loudness	
Jan	13	M	DSP III DFT, Hilbert Spaces and Spectrograms	
Jan	15	W	Monophonic pitch analysis / autocorrelation	
Jan	16	R	Audio Feature Extraction (MFCC, Spectral)	A1
Jan	20	M	Project discussion	
Jan	22	W	Data Mining I (generative classification)	
Jan	23	R	Data Mining II (discriminative classification)	
Jan	27	M	(Gtzan @ Greece) Symbolic music representations	
Jan	29	W	(Gtzan @ Greece) Text Feature Extraction	
Jan	30	R	(Gtzan @ Greece) OMR	

MIR COURSE SCHEDULE - February, Winter 2014  
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Feb	03	M	Music Classification	A1 / A2
Feb	05	W	Auto-tagging	
Feb	06	R	Multi-modal classification	P1
Feb	17	M	Rhythmic Analysis I (onset detection, tempo estimation)	
Feb	19	W	Rhythmic Analysis II (beat tracking, pattern detection)	
Feb	20	R	Clustering	
Feb	24	M	Sequence mining (DTW, HMM)	A2/A3
Feb	26	W	Query-by-humming	
Feb	27	R	Pitch representations/chroma	

MIR COURSE SCHEDULE - March, April Winter 2014  
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Mar	03	M	Audio-Score Alignment	
Mar	05	W	Chord and Key Detection	
Mar	06	R	Cover song detection	
Mar	10	M	Segmentation and Structure Analysis	A3/A4
Mar	12	W	Sound Separation I	
Mar	13	R	Sound Separation II	P2
Mar	17	M	Auditory Scene Analysis	
Mar	19	W	Evaluation and MIREX	
Mar	20	R	User modeling (user studies, collaborative filtering) (A4 due)	
Mar	24	M	Visualization and dimensionality reduction techniques	A4
Mar	26	W	Interactive MIR interfaces	
Mar	27	R	Computational Ethnomusicology	
Mar	31	M	Computer Musicianship	
Apr	2	W	Audio Fingerprinting and watermarking	
Apr	3	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, companies