MUS320A&B: Introduction to Digital Audio Signal Processing

Center for Computer Research in Music and Acoustics (CCRMA)
Department of Music, Stanford University

320A (spectra): Autumn Quarter
320B (filters): Winter Quarter

2017–2018

Contents

Music 320 A & B: Introduction to Digital Audio Signal Processing

1 Course Description

Music 320 is a two-quarter first-course in digital signal processing with applications in computer music and audio.

The lectures present fundamental elements of digital audio signal processing, such as sinusoids, spectra, the Discrete Fourier Transform (DFT), digital filters, z transforms, transfer-function analysis, and basic Fourier analysis in the discrete-time case. Matlab is used for in-class demonstrations and homework/lab assignments. The labs focus on practical applications of the theory, with emphasis on working with waveforms and spectra, "getting sound", and developing proficiency in the matlab language.

Prerequisites: High-school level algebra and trigonometry, some calculus, and prior exposure to complex numbers.

Time and Place

Term:	Autumn and Winter Quarters
Location:	CCRMA Classroom (Knoll 217)
Lectures:	Tuesdays and Thursdays 3:00–4:50 PM
Units:	2–4
Instructor:	Julius O. Smith (jos@ccrma.stanford.edu)
TA:	Rahul Agnihotri (ragni@ccrma.stanford.edu)
Office Hours:	See "Office Hours and Getting Help"[1] below
Schedule:	See "Schedule and Pointers"[2] below

[1] http://ccrma.stanford.edu/~jos/intro320/Office_Hours_Getting_Help.html
[2] http://ccrma.stanford.edu/~jos/intro320/