

MUS/COM/ELE 369G Technologies and Music

Spring 2020, TR 2:00-3:15 pm, White 205

Course webpage: www.ele.uri.edu/courses/ele369g

Instructors: Prof. Ian Reyes (Communication Studies and Film/Media) ianreyes@uri.edu
 Prof. Ying Sun (Biomedical Engineering) yingsun@uri.edu

Guest speakers: Prof. Eliane Aberdam (Music) eliane@uri.edu
 Ryan Campos (Sound Artist)

Wk	Date	Topics	Handout
1	1/23	Introduction; Orchestra instruments; Pre-class survey (Sun,, Reyes)	01a, 01c
2	1/28 1/31	Music acoustics, harmonics, musical temperaments (Sun) Mathematics of musical temperament, scales, chords (Sun)	03a 04c
3	2/4 2/6	Vibrations, geometric series, scales; Sound intensity in dB (Sun) Multi-Disciplinary Studies of Music Technologies I (Reyes)	05a 03b_E, 03c_E
4	2/11 2/13	Multi-Disciplinary Studies of Music Technologies II (Reyes) Harmony, chords, beating; Fourier analysis (Sun)	04a_E, 04b_E 04c
5	2/18 2/20	Sampling rate, quantization, data compression MP3; Preparation for Exam #1 (Sun) Exam #1	05b
6	2/25 2/27	Music synthesis software such as Audacity (Aberdam) Recording Studio Tools and Signal Flow (Reyes)	12a 07a
7	3/3 3/5	East Coast vs. West Coast Synthesis (Reyes) MIDI, notation software (Sun)	09a 6b, 6c
8	3/10	No class (Spring recess)	
9	3/17 3/19	Synthesis techniques, composition by modular patching (Ryan Campos) Virtual Modular Synthesis (Reyes)	09b, 09c_E
10	3/24 3/26	Theremin; Preparation for Exam #2 (Sun) Exam #2	12e
11	3/31 4/2	Rhythm, time signature, meter and tempo (Aberdam) Intervals and scale formation, circle of fifths (Aberdam)	02a, 02b 02c, 02d, 02e
12	4/7 4/9	Project: synthesized music (Reyes); PVC pipe flute (Sun) Technology, Aesthetics, and the Music Industry (Reyes) Piracy, Streaming, and Consumer Ethics (Reyes)	12c 07b 12b
13	4/14 4/16	Physiology of human auditory system: anatomy and physiology (Sun) Physiology of human auditory system: hearing loss, cochlear implant (Sun)	06a
14	4/21 4/23	Acoustics of woodwind musical instruments (Sun) Inharmonicity and piano tuning; guitar construction (Sun)	12d 14a
15	4/28 4/30	Conclusion; Post-class survey; Preparation for Final Exam (Sun, Reyes) Exam #3 Thursday 11:30 am – 1:00 pm	

Grading: Exam #1 (23%), Exam #2 (23%), Exam #3 (23%), Project (23%), Attendance (8%).
 Extra 3% - Attending "Geoffrey Gibb's 80th Birthday Celebration" 3 pm, March 29, 2020, Fine Arts Center