

Sound Design / Introduction to Computer Music -- Elective

Course Description

Sound Design / Introduction to Computer Music (with the possibility to be offered as a dual enrollment course) that introduces students to a broad range of topics and concepts in electronic and computer music. This course will cover principles of digital audio, sound design, synthesis, Digital Audio Workstations, and sound art composition. Assignments and activities include listening, analysis, discussion, and hands-on recording and composition exercises.

Course Objectives

- Demonstrate an understanding of conceptual approaches to computer music composition, including concepts from Musique Concrète, tape-based music, synthesizers, and audio processing.
- Demonstrate an understanding of technical issues related to computer music, including working with digital audio and using Digital Audio Workstation software.
- Demonstrate technical and analytical listening skills through presentations and discussions.
- Produce multiple creative artifacts through music composition projects.

Assessing Performance

Students are assessed by obtaining weekly grades on the following: Class Participation, Quizzes, Lab Assignments, Presentations, and Projects.

Course Essentials

Equipment	Cost/Unit
Reusable material	\$300 per station (Presonus AudioBox Recording Kit or equivalent plus MIDI controller)
Classroom set of computers	\$0 if you already have them, \$800-1200 per computer if you need to purchase

First Semester

Unit 1: Introduction to DAW	A short introduction to the basic concepts of Digital Audio Workstation software and digital audio
Unit 2: Tone and Noise	Understanding basics of sound and the use of tone and noise in music
Unit 3: Ideas and Theories	Examining multiple historical and modern perspectives on experimental music
Unit 4: Mini Composition 1	Produce a short Musique Concrète style composition
Unit 5: MIDI and Synthesizers	Understanding MIDI recording and editing and synthesizer components
Unit 6: Mini Composition 2	Produce a short composition using only synthesizers

Second Semester

Unit 7: Listening and Analysis	In-class listening sessions and analysis discussions, referring to existing analysis guides
Unit 8: Presentations	Group presentations that demonstrate listening and analysis skills
Unit 9: Plugins and Processing	Introduction to various types of audio processing plugins
Unit 10: Peer Critique	In-class peer critique discussion of work-in-progress Final Project
Unit 11: Final Project	Produce a substantial original composition demonstrating a comprehensive understanding of technical and conceptual skills from the course



SOUND DESIGN

1. Materials

A desktop or laptop computer, access to 1-to-1 daily, and Internet. Chromebooks will not work.

Hardware and Software (Each student needs access to a computer)		
Midi Keyboard/Controller (such as Arturia mkII Slim Key Controller)	1 per student	99.99
PreSonus iTwo Bundle or PreSonus AudioBox Bundle Recording Kit (Microphone, Headphones, Audio Interface, DAW Software: PreSonus Studio One)*	1 per student	\$259/kit or \$209/kit

*Other DAW Software options to purchase: Reaper (Budget option), Ableton Live, Logic, ProTools
Pro versions provide the best experience (video editing, DSP plugins, instruments)

2. Required software, networking access, and access to LSU servers

- Teachers will need to be able to share documents via Google drive with LSU instructors.
- Software to install on each computer: Audacity & DAW Software purchased above. (Studio One)
- Principals will need to communicate with the district's information technology department to ensure that there are no technological restrictions that block access to servers in the lsu.edu or lsupathways.org domains. In addition, students must be able to access the following websites:

codepen.io	gibber.cc	earsketch.gatech.edu
freesound.org	audacity.org	openshot.org
youtube.com & vimeo.com	soundcloud.com	musictheory.net

3. Required teacher collaborations

Teachers will communicate with LSU instructors via a Google group set up for this purpose.

4. Required administration of course content, pre/post test, and research instruments

All required materials and instruments will be either posted in a Google drive or their location announced via the Google group for this course.

5. Other

As this is a project-based learning class, we strongly suggest that each section of the course should be limited to a *maximum* of 20 students. If the course is overloaded with students, they will not receive adequate instruction.