MTEC 62B: COMPOSING & PRODUCING ELECTRONIC MUSIC II

Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2023
Units:	4
Hours:	3 lecture, 3 laboratory per week (72 total per quarter)
Advisory:	Not open to students with credit in MUS 66C.
Degree & Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	CSU
Grade Type:	Letter Grade (Request for Pass/No Pass)
Repeatability:	Not Repeatable

Description

Creating and editing sounds with synthesizers, samplers, drum machines, and virtual instruments. Compose and produce music in a variety of styles, including commercial and experimental. Utilize MIDI and virtual instruments for songwriting, arranging, and orchestration. Program analog synthesizer modules, including oscillators, filters, ADSR envelope generators, and LFOs. Overview of third party virtual instruments and plugins. Create, edit, and arrange drum beats. Emulate acoustic instruments, violin sections, brass, woodwinds, and choir. Organize sound libraries and virtual instrument templates for music production, TV, film, websites, and video games. Work can be done in any major DAW that supports AU, AAX, or VST instruments, including Pro Tools, Logic, Cubase, Live, etc.

Course Objectives

The student will be able to:

1. Evaluate equipment and software used in electronic music
2. Compose, edit, mix, and master electronic music productions in various genres
3. Apply subtractive synthesis techniques with a variety of filters
4. Emulate and arrange acoustic instruments, piano, violin sections, brass, woodwinds, and choir
5. Create original sound banks for samplers and drum modules
6. Demonstrate realtime performance controls and gestures with MIDI virtual instruments and hardware synthesizers

Course Content

1. Types of synthesis
    a. Subtractive
    b. Additive
    c. FM
    d. Physical modeling
    e. Granular
    f. Wavetable synthesis
2. Synthesizer programing parameters
    a. Pitch - Frequency
    b. Tone - Timbre
    c. Loudness - Amplitude
    d. Modulation
3. Synthesizer components
    a. Oscillators
    b. Filters
    c. Amplifiers
    d. Envelope generators
4. Organizing sound libraries
    a. File management
    b. Drum sounds and loop libraries
    c. Orchestral instrument libraries and templates
    d. Sound effects
5. Virtual instrument orchestration
    a. Emulating acoustic instruments
    b. Composing for strings, brass, and woodwinds
    c. Layering acoustic sounds with electronic sounds

Lab Content

1. Evaluate technical capacity of electronic music studio setup
    a. Number of voices
    b. RAM and CPU
    c. Data backup workflows
2. Critical listening and transcribing of recorded commercial music
    a. Determine chord charges, melody, and bass line
    b. Replicate the sounds used
    c. Program MIDI sequencer to sound similar to recorded example
3. Compose drum and percussion arrangements
    a. Sampled drums
    b. Sampled percussion
    c. Electronic drums sounds and loops
4. Develop portfolio of electronic music styles
    a. Ambient
    b. Techno
    c. R&B
    d. Pop
    e. Soundtrack
5. Publish finished work
    a. Final mix and mastering of productions
    b. Optimize for streaming services
    c. Post on Soundcloud, iTunes, YouTube, and class server

Special Facilities and/or Equipment

1. When taught on campus: 30 Macintosh computers and MIDI keyboards, video projector and screen, digital audio workstation software with appropriate virtual instrument plugins.
2. When taught via Foothill Global Access: on-going access to computer with email software and capabilities, email address, JavaScript-enabled internet browsing software.

Method(s) of Evaluation

Methods of Evaluation may include but are not limited to the following:

Graded lab assignments in the operation of virtual synthesizers, samplers, and drum machines
Quizzes on electronic music concepts and terminology
Composition projects requiring application of concepts presented in each module
A graded final project that demonstrates acquired skill in producing and performing electronic music

Method(s) of Instruction

Methods of Instruction may include but are not limited to the following:

Lecture presentations and classroom discussion of the techniques for composing and producing electronic music
In-class listening to historically significant electronic music compositions followed by instructor-guided interpretation and analysis
Presentations of major composition and production projects followed by in-class discussion and evaluation

Representative Text(s) and Other Materials

Akins, Joseph. The Fundamentals of Synthesizer Programming. 2021.

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

1. Written critiques and analyses of audio production projects, including albums, soundtracks, television, video games, and internet multimedia
2. Written summaries documenting technical and artistic elements for corresponding submitted assignments and audio projects
3. Written proposals, session logs, learning outcomes, and reflections supporting submitted musical works and final master recordings

Discipline(s)

Commercial Music