MTEC 62B: COMPOSING & PRODUCING ELECTRONIC MUSIC II

Foothill College Course Outline of Record

Heading	Value
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. History of sampling and loop based compositional techniques. 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:
A. Evaluate equipment and software used in electronic music.
B. Compose, edit, mix and master electronic music productions in various genres.
C. Apply subtractive synthesis techniques with a variety of filters.
D. Emulate and arrange acoustic instruments, piano, violin sections, brass, woodwinds and choir.
E. Create original sound banks for samplers and drum modules.
F. Demonstrate realtime performance controls and gestures with MIDI virtual instruments and hardware synthesizers.

Course Content

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

Lab Content

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

Special Facilities and/or Equipment

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

Method(s) of Evaluation

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

Method(s) of Instruction

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

Representative Text(s) and Other Materials

Vail, Mark. The Synthesizer: A Comprehensive Guide to Understanding, Programming, Playing, and Recording the Ultimate Electronic Music Instrument. Oxford University Press, 2014.

Shepard, Brian. Refining Sound: A Practical Guide to Synthesis and Synthesizers. Oxford University Press, 2013.

Pejrolo, Andrea. Acoustic and MIDI Orchestration for the Contemporary Composer: A Practical Guide to Writing and Sequencing for the Studio Orchestra. 2nd ed. Focal Press, 2016.

Other written materials provided by the instructor and delivered online.

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

A. Written critiques and analyses of audio production projects, including albums, soundtracks, television, video games and Internet multi-media.

B. Written summaries documenting technical and artistic elements for corresponding submitted assignments and audio projects.

C. Written proposals, session logs, learning outcomes and reflections supporting submitted musical works and final master recordings.

Discipline(s)

Commercial Music