MTEC 54A: MUSIC THEORY FOR AUDIO PRODUCERS

Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2021
Units:	4
Hours:	3 lecture, 3 laboratory per week (72 total per quarter)
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

Introductory course in music theory as applied to audio production, music technology and songwriting. Study elements of music, including melody, rhythm, chords and musical forms. Understand traditional music notation as applied to MIDI sequencers, Pro Tools and other Digital Audio Workstations (DAWS). Edit drum and percussion notation to program beats, MIDI sequencer Event Lists, and digital sample libraries. Ear training exercises for audio engineers to make equalization and production decisions based on harmonic overtones, key signatures and chord progressions. Selected listening and analysis of famous composers and award-winning producers in a wide variety of styles. Study the Nashville number music notation shorthand system. Develop ability to quickly and effectively recognize chord changes and transpose to any key. Learn to read, write and conduct orchestral scores used in commercial recording studios. Apply traditional music theory concepts to modern digital audio editing software, such as Melodyne, Auto-Tune, Elastic Audio, and computer virtual instrument orchestration.

Course Objectives

The student will be able to:
A. Identify key signatures, scales, chord progressions.
B. Accurately transcribe data into MIDI (Musical Instrument Digital Interface) sequencers and DAWS (Digital Audio Workstations).
C. Identify and correct pitch intonation discrepancies in mono and polyphonic digital audio files.
D. Read and conduct musical scores as required in professional audio recording studios and movie sound stages.
E. Hear and identify harmonic functions of chords as they relate to key signatures and map to MIDI control data.
F. Analyze rhythmic performances of musical instrument and vocal recordings.
G. Understand and convert traditional music notation into MIDI sequencer data.
H. Manipulate parameters of pitch, rhythm and harmony with MIDI software.
I. Identify song structure, create tempo maps, memory locations and chord symbols.
J. Apply digital audio processing to time stretch musical recordings or transpose to a different key.
K. Understand drum and percussion notation to program MIDI sequencer Event Lists, and digital sample libraries.

Course Content

A. Traditional rhythmic note values as viewed with various grid resolution in MIDI sequencers.
B. The physics of sound as related to traditional musical notation.
C. Time signatures and bar/beat subdivisions as displayed and manipulated in Digital Audio Workstations.
D. Transpose digital audio files into various keys.
E. Harmonic overtone series as it relates to parametric equalization of digital audio.
F. Ear training to identify musical notes in terms of frequency measured in Hertz (cycles per second).
G. Quantize and correct rhythmic performance discrepancies in various degrees and resolutions.
H. Notate chord progressions with Nashville number music notation shorthand system.

Lab Content

A. Frequency analysis and ear training tutorials.
B. Rhythmic, melodic and harmonic dictation and transcription exercises integrated with MIDI sequencers.
C. Analyze and edit digital audio files to conform with key signatures and tempo grids.
D. Spectrum analysis of audio waveform harmonic content as it relates to tradition music theory concepts.

Special Facilities and/or Equipment

A. When taught on campus:
1. Macintosh computers, MIDI keyboards and MIDI interface.
2. Video projector and screen.
3. Pro Tools software.
4. Reason software.
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

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

Graded lab assignments
Quizzes and comprehensive final examinations
Aural exams to identify and notate musical parameters
Final project demonstrating integrated skills applying concepts in finished audio production

Method(s) of Instruction

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

Lecture presentations and classroom discussion connecting traditional music theory concepts to modern digital audio production
Listening exercises to identify standard musical parameters, such as pitch, rhythm, harmony, timbre and form, as applied to MIDI data and Digital Audio Workstations
Group presentations of student projects followed by in-class discussion

Demonstration of digital audio production techniques utilizing knowledge of music theory and music notation

Representative Text(s) and Other Materials

Harnum, Jonathan. Basic Music Theory: How to Read, Write, and Understand Written Music, 4th ed.. 2005.

2005 4th edition remains pertinent in 2021.

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

A. Written analysis of commercially released audio productions record albums, movie soundtracks and video games.
B. Analysis of various written music scores.
C. Reading assignments on the physics of sound as related to traditional musical notation.

Discipline(s)

Commercial Music