MTEC 52A: MIXING & MASTERING I

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)
Advisory:	Not open to students with credit in MUS 81C.
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

Mixing and mastering multitrack recordings using Pro Tools. EQ, compression, reverb, delays, tempo maps, harmonic distortion, multi-band compression. Comparison and contrast of various styles of mixing including jazz, classical, country, rock, hip-hop and electronica, etc. Example exercises featuring professional recordings and mixes. Understanding and applying mixing concepts such as balance, dimension, and monitoring. Deliver final mixes that translate accurately to various speaker systems and listening environments.

Course Objectives

The student will be able to:
A. Analyze the dynamic spectrum of a multitrack recording.
B. Operate a digital and/or analog mixing board to mix a multitrack master to stereo.
C. Explain the mixing styles of the recording industry in the 20th century.
D. Evaluate a stereo mix by applying modern (post 1990) standards of commercial mixing.
E. Create a stereo mix from a multitrack master.
F. Create a digital audio tape or compact disc master of a stereo mix.
G. Discuss how different cultures and musical styles approach the art of mixing.

Course Content

A. Study and analysis of mixing and mastering styles since the advent of multitrack recording.
1. Analog multitrack mastering styles from 4 track masters.
2. Digital multitrack mastering styles using digital multitrack recorders.
3. Computer based mastering styles using automated mixing.
4. History of mixing and mixing aesthetics in the US, Europe, Latin America and Asia.
B. Planning and theory of multitrack masters.
1. Balancing mixes for transparency and clarity.
2. Masking and layering stacked tracks for sonic impact.
3. Application of signal processing for lead delineation.
4. Automation groups and master faders.
C. Creation and production of CD and DVD-Audio masters.
1. Red book numbering and headroom protocols.

2. Test tones and equalization requirements for mass production facilities.
3. Numbering and alignment of tracks for mastering.

Lab Content

A. Lab content includes topics such as microphone selection and placement, gain settings, monitor system setup, amplification calculations based on room size, etc.
B. Other items may include subjects such as number of plug ins per insert track, bus assignments for efficient recording operation, and mastering compression settings.

Special Facilities and/or Equipment

A. When taught on campus:
1. Classroom with Pro Tools HD TDM recording system and 16 channel 192 interface.
2. Digital control surface.
3. 10 condenser microphones with stands, clips and cables.
4. 10 dynamic microphones with stands, clips and cables.
5. All Avid distributed plug-ins.
6. Apple Mac Pro with at least 8Gb of RAM and 24 inch monitor.
7. Active near field monitors.
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:

Written assignments that analyze, compare and contrast mixing theory and aesthetics from all cultures and musical styles
Designing and assembling a digital master that demonstrates an understanding of mixing theory
Tests on mixing and mastering theory

Method(s) of Instruction

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

Lecture presentations that demonstrate theories and techniques used by professional audio mixing and mastering engineers
Classroom discussions that address the history and evolution of audio post production, mixing and mastering for broadcast quality distribution
Group presentations followed by in-class discussion and evaluation

Representative Text(s) and Other Materials

Owsinski, Bobby. The Mixing Engineer's Handbook, 4th ed.. 2017.

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 multimedia.
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