MTEC 51B: STUDIO RECORDING II

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 81 or 81A.
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

Introduction to multitrack recording and production using Avid Pro Tools HD systems. Contemporary recording studio production techniques including microphone selection, placement, analog and digital signal paths, speaker monitors and studio acoustics. Techniques for recording drums, bass, piano, guitar, woodwinds, strings and vocals. Practical hands-on experience with professional recording artists and student collaborations.

Course Objectives

The student will be able to:

A. Operate a multitrack recorder in professional studio session environment.

B. Analyze the audio spectrum of a musical instrument and apply that analysis in the recording process.

C. Assemble a multitrack recording in a multi session environment.

D. Assess the comparative levels of tracks as they relate to the multitrack recording as a whole.

E. Define the overall level of a multitrack recording in relation to the headroom allowed by the media used to record.

F. Describe and discuss the basic principles of multitrack recording.

G. Discuss the multitrack recording styles and techniques of other cultures.

Course Content

A. Study and analysis of multitrack recording techniques.

1. Single-track recording in a multi-session environment.

2. Recording multiple tracks simultaneously.

3. Integrating MIDI tracks into audio recordings.

B. Planning and assembly of multitrack recordings.

1. Recording percussion and percussive instruments.

2. Recording the human voice, spoken and sung.

3. Direct recording (impedance transform) of electric instruments.

4. Recording brass, string and plectrum instruments.

5. Listing and filing of track records for future reference.

C. Study and analysis of cross media multitrack recordings.

1. Integrating digital multitrack recorders and CPU-based systems.

2. Application of synchronization protocols including SMPTE time code and MTC.

3. Application of synchronization protocols from Europe, Asia and Latin America.

Lab Content

Lab content includes topics such as:

A. Microphone selection and placement

B. Gain settings

C. Monitor system setup

D. Amplification calculations based on room size, etc.

E. 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. 24/8 analog and digital mixing console.

2. One Pro Tools Control 24 digital control surface.

3. 10-20 condenser and dynamic microphones.

4. One Pro Tools HD system running on a G5 with at least 2 Gb of memory.

5. One Pro Tools 192 I/O interface with a 192 expansion card.

6. One Pro Tools 96i I/O interface.

7. 30 Pro Tools Native systems.

8. 30 Macintosh computers at least 1.5 GHz with a 24 channel D/A converter.

9. Multiple RTAS and AAX plug-ins.

10. 10-20 condenser and dynamic microphones.

11. 5 foot, 15 foot, and 30 foot XLR cables for all microphones.

12. Five analog signal processors.

13. Microphone stands with boom arms for all microphones.

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 multitrack recording techniques

Designing and assembling a multitrack recording in a multi session environment

Tests on multitrack recording techniques from all cultures with commercial music industries

Method(s) of Instruction

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

Lecture presentations that demonstrate contemporary recording studio production techniques

Classroom discussions that address the history of audio engineering and how these concepts are applied in modern, professional recording studios

Group presentations followed by in-class discussion and evaluation

Representative Text(s) and Other Materials

Huber, David Miles. Modern Recording Techniques, 9th 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