Las Positas College
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Course Outline for MUS 36

INTERMEDIATE MUSIC TECHNOLOGY

Effective: Spring 2018

I. CATALOG DESCRIPTION:
MUS 36 — INTERMEDIATE MUSIC TECHNOLOGY — 3.00 units

This course is the 2nd level course in the music technology series. Topics include intermediate/advanced computer skills, software-based sequencing, synthesis, MIDI, sampling, notation, principles of sound, microphones, introduction to digital audio, signal processing, mixers and mixing, recording principles, cables and interconnects, and audio in live performance.

3.00 Units Lecture

Prerequisite
MUS 35 - Intro to Music Technology
with a minimum grade of C

Grading Methods:
Letter or P/NP

Discipline:
- Music

	MIN
Lecture Hours:	54.00
Total Hours:	54.00

II. NUMBER OF TIMES COURSE MAY BE TAKEN FOR CREDIT: 1

III. PREREQUISITE AND/OR ADVISORY SKILLS:

Before entering the course a student should be able to:

A. MUS35
1. Explain and diagram the principles of sound and acoustics
2. Discuss signal flow in a recording console
3. Describe microphone functions and uses
4. Explain the functions and applications of signal processors
5. Perform simple mixdowns
6. Create sheet music using a notation program

IV. MEASURABLE OBJECTIVES:

Upon completion of this course, the student should be able to:

A. Explain and diagram advanced principles of sound and acoustics
B. Discuss signal flow in a recording console, and appropriate techniques for recording a variety of ensembles.
C. Utilize a variety of microphones in several recording projects to gain a solid foundation for recording techniques.
D. Edit, mix, and master recording projects in a variety of formats.
E. Create electronic music through the use of digital audio workstations, common recording programs, and a variety of plug-ins.

V. 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.
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

D. Intermediate operation of a non-traditional recording system.
E. Acoustic treatments in various configurations.
F. Recording techniques and microphone placement
G. Multi-take recording and composite tracks
H. Audio hardware operation.
I. Digital and virtual mixers.
J. Use multiple external firewire drives.
K. Software selection and use.
L. Audio based production software.
M. Virtual instruments in the production environment.
N. Rewire and multiple program operation.

VI. METHODS OF INSTRUCTION:

A. **Lecture** -
B. **Lab** -
C. **Audio-visual Activity** -
D. **Classroom Activity** -
E. **Demonstration** -
F. **Guest Lecturers** -
G. **Research** -
H. **Discussion** -
I. **Projects** -
J. **Individualized Instruction** -
K. **Student Presentations** -

VII. TYPICAL ASSIGNMENTS:

A. Assignments that Demonstrate Critical Thinking
1. Student will analyze mixdowns of popular music create by professionals.
2. Students will evaluate recordings using the following criterion: signal flow, digital signal processing, and blending of sound.

B. Writing Assignments and/or Proficiency Demonstration
1. Students will demonstrate their proficiency in using a digital audio workstation through producing a high-quality mixdown.

VIII. EVALUATION:

A. **Methods**

1. Exams/Tests
2. Quizzes
3. Projects
4. Group Projects
5. Class Participation
6. Class Work
7. Home Work
8. Lab Activities

B. **Frequency**

1. 3 exams
2. 5 quizzes
3. 2 major recording projects (1 group, 1 individual)
4. Daily attendance/participation
5. Daily class work
6. Weekly homework
7. Weekly lab hours

IX. TYPICAL TEXTS:

1. Hosken, Dan. *An Introduction to Music Technology* . 2nd e ed., Routledge, 2016.
2. *Foundations of Music Technology.* 1st ed., Oxford University Press, 2015.
3. *Essentials of Music Technology.* 1st ed., Oxford University Press, 2015.
4. Massy, Sylvia. *Recording Unhinged: Creative and Unconventional Music Recording Techniques* . Har/Psc edition ed., Hal Leonard, 2016.

X. OTHER MATERIALS REQUIRED OF STUDENTS: