MUSC 60A Course Outline as of Fall 2009

CATALOG INFORMATION

Dept and Nbr: MUSC 60A   Title: AUDIO RECORDING 1
Full Title: Audio Recording 1
Last Reviewed: 11/9/2020

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	2.00	17.5	Lecture Scheduled	35.00
Minimum	3.00	Lab Scheduled	2.00	17.5	Lab Scheduled	35.00
		Contact DHR	1.00		Contact DHR	17.50
		Contact Total	5.00		Contact Total	87.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 70.00   Total Student Learning Hours: 157.50

Title 5 Category: AA Degree Applicable
Grading: Grade Only
Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP
Also Listed As:
Formerly:

Catalog Description:
This course is a comprehensive introduction to audio recording with Digidesign Pro Tools.
Topics include basic audio theory, the fundamentals of analog and digital recording, signal flow,
microphones, mixers, monitors, and a hands-on introduction to the Pro Tools system.

Prerequisites/Corequisites:

Recommended Preparation:
Course Completion of MUSC 50; AND completion of, or concurrent enrollment in MUSC 51A.
Note: MUS 38 is no longer offered, but may be used in lieu of MUSC 50.

Limits on Enrollment:

Schedule of Classes Information:
Description: This course is a comprehensive introduction to audio recording with Digidesign Pro
Tools. Topics include basic audio theory, the fundamentals of analog and digital recording,
signal flow, microphones, mixers, monitors, and a hands-on introduction to the Pro Tools
system. (Grade Only)
Prerequisites/Corequisites:

Recommended: Course Completion of MUSC 50; AND completion of, or concurrent enrollment in MUSC 51A. Note: MUS 38 is no longer offered, but may be used in lieu of MUSC 50.
Limits on Enrollment:
Transfer Credit: CSU;
Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

			Effective:	Inactive:
AS Degree:	**Area**		Effective:	Inactive:
CSU GE:	**Transfer Area**		Effective:	Inactive:
IGETC:	**Transfer Area**		Effective:	Inactive:
CSU Transfer:	Transferable	Effective: Fall 2009	Inactive:
UC Transfer:		Effective:	Inactive:

CID:

Certificate/Major Applicable:
Both Certificate and Major Applicable

COURSE CONTENT

Outcomes and Objectives:
Upon completion of this course, students will be able to:
1. Explain the fundamental principles of acoustics including the characteristics of sound waves, the physiology of human hearing, psychoacoustics, and auditory perception.
2. Explain the basics of recording studio design including acoustical and electrical issues.
3. Describe and relate the history and development of analog and digital recording technology.
4. Demonstrate a working knowledge of the equipment, terminology, and activities associated with the audio recording process.
5. Demonstrate proper selection, care, handling, and placement of microphones.
6. Demonstrate hands-on proficiency with professional recording equipment including outboard gear, patchbays, mixing boards, amplifiers, and speakers.
7. Explain and diagram signal flow in a recording console.
8. Record digital audio tracks with Digidesign Pro Tools.
9. Demonstrate professionalism in a recording studio environment.

Topics and Scope:

I. Introduction
    A. Overview of the recording process
    B. The role of audio recording in digital media
    C. The roles of professional studio personnel
II. Sound and Hearing
    A. The basics of sound and sound waves
        1. Frequency
        2. Amplitude
        3. Phase and phase shift
        4. Harmonic content (timbre)

1. Room considerations
2. Speaker design
3. Crossover networks
4. Polarity
5. Powered vs. passive
B. Far-field vs. near-field monitoring
C. Headphones
D. Developing monitor mixes

VII. A Brief Overview of Analog Recording
A. Tape machines
B. Tape types and recording speeds
C. Issues with tape heads: bias, gauss, alignment, cleaning, calibration
D. Advantages and disadvantages of analog recording

VIII. Fundamentals of Digital Recording
A. Sampling: rate and resolution
B. The Nyquist theorem
C. Oversampling
D. Quantization
E. Signal-to-error ratio
F. Dither

IX. The Audio Production Console
A. Channel input
B. Auxiliary send section
C. Equalization
D. Insert point
E. Dynamics section
F. Monitor section
G. Output fader
H. Output bus
I. Monitor level section
J. Patchbays
K. Metering
L. Automation
    1. Grouping
    2. Automation modes
    3. MIDI-based automation
M. The art of mixing

X. Introduction to Digidesign Pro Tools
A. Pro Tools Systems
    1. Pro Tools|HD
    2. Pro Tools LE
    3. Pro Tools M-Powered
    4. Add-ons and plug-ins
B. The Pro Tools File Structure
C. The Pro Tools Interface
    1. Menu structure
    2. Main windows
    3. Tools
    4. Edit mode features
    5. Time scales and rulers
    6. Transport window MIDI controls
D. Working with sessions

1. Configuring sessions
2. Parameter settings
3. Adding, naming, and deleting tracks
4. The playback cursor and edit cursor
5. Saving, locating, and opening existing sessions
   E. Audio Recording in Pro Tools
XI. Standards of Professionalism in the Recording Environment

Assignment:

1. Reading (10-20 pp. per week) from the text and handouts.
2. Hands-on proficiency demonstrations on the hardware and software.
3. Quizzes (3-5) on vocabulary and technical terminology.
4. Completion of required laboratory hours.
5. Final project: an original recording (minimum of 3 minutes in length) that demonstrates mastery of the concepts of the course.

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

None, This is a degree applicable course but assessment tools based on writing are not included because problem solving assessments and skill demonstrations are more appropriate for this course.	Writing 0 - 0%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Recording project(s)	Problem solving 40 - 55%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Hands-on proficiency demonstrations	Skill Demonstrations 25 - 35%

Exams: All forms of formal testing, other than skill performance exams.

Terminology quizzes	Exams 10 - 25%

Other: Includes any assessment tools that do not logically fit into the above categories.

Attendance and participation	Other Category 5 - 10%

Representative Textbooks and Materials:

I. Textbooks
Modern Recording Techniques, 6th ed. David Miles Huber and Robert Runstein. Focal Press, 2005.
Pro Tools 101 Official Courseware, Version 7.4, 2nd ed. Digidesign. Course Technology PTR, 2007.

II. Trade periodicals such as:
   Mix Magazine
   Pro Sound Magazine
   Electronic Musician Magazine

III. Instructor prepared materials