MUSC 51A Course Outline as of Fall 2021

CATALOG INFORMATION

 Dept and Nbr: MUSC 51A   Title: DIGITAL AUDIO 1
Full Title: Digital Audio 1: Fundamentals
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	8	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 covers the fundamentals of digital audio through a hands-on workshop in production
and editing with a digital audio workstation (DAW). Topics include the principles of audio and
digital recording, digital editing, the integration of digital audio and MIDI tracks, and digital
signal processing.

Prerequisites/Corequisites:
Course Completion or Current Enrollment in MUSC 50

Recommended Preparation:

Limits on Enrollment:

Schedule of Classes Information:
Description: This course covers the fundamentals of digital audio through a hands-on workshop
in production and editing with a digital audio workstation (DAW). Topics include the principles
of audio and digital recording, digital editing, the integration of digital audio and MIDI tracks,
and digital signal processing. (Grade Only)
Prerequisites/Corequisites: Course Completion or Current Enrollment in MUSC 50

Recommended:
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

Student Learning Outcomes:
At the conclusion of this course, the student should be able to:
1. Apply a working knowledge of digital audio concepts to produce, edit, and process audio files in a variety of formats with a digital audio workstation (DAW).

Objectives:
At the conclusion of this course, the student should be able to:
1. Utilize and apply a working vocabulary of digital audio terminology.
2. Explicate and apply the fundamentals of digital recording.
3. Demonstrate hands-on proficiency with a DAW at an intermediate level.
4. Mix and edit digital audio tracks, including integration with MIDI.
5. Explain and demonstrate a variety of digital signal processing (DSP) techniques.

Topics and Scope:

Lecture Topics:
I. Basics of Digital Editing
   A. Nonlinear editing
   B. Spectrum editing
   C. Scrubbing/jogging/shuttling
   D. General editing guidelines
   E. Edit Decision List (EDL)
   F. File naming conventions
II. Digital Signal Processing (DSP)
   A. Understanding signal flow
   B. Audio plugins
III. Synthesis
   A. Understanding synthesizer architecture

B. Building a synthesizer in a modular mode
C. Survey of synthesizer types
D. FM synthesis: Building presets and working with FM operators
IV. Samplers
A. Building an instrument in a sampler environment
B. Strategies for content within a sampler
C. Using DSP in a sampler environment
V. Survey of DAW Types
A. Common DAW terms
B. Workflow strategies
C. Using a DAW to compose music in various genres
VI. Digital Audio Editors
A. Destructive editing
B. Loop construction, file repair
VII. Mixing
A. Comparing your mix to an accepted standard
B. Synthesized music mixes vs. live instrument mixes
C. Cleaning tracks and other post production best practices
VIII. Mastering

Laboratory Topics:
I.   Intermediate-Level Usage of the Digital Audio Workstation
II. Mixing and Editing Techniques
III. Integration of MIDI and Digital Audio Tracks
IV. Signal Processing Techniques
V. Digital Audio Projects

Assignment:

1. Reading (10-20 pp. per week) from the text, handouts, and/or online tutorials
2. Hands-on proficiency demonstrations (3-5) on the hardware and software
3. Quiz(zes) (1-3) on course topics (multiple choice/short answer/essay as needed)
4. Completion of required laboratory hours
5. Digital audio projects based on the laboratory topics above
6. Final digital audio project designed in consultation with the instructor

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.

Digital audio projects		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.

Quiz(zes)		Exams 10 - 25%

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

Attendance and participation, lab hours		Other Category 5 - 10%

Representative Textbooks and Materials:
Online Tutorials:
Groove3.com (all-access pass)

Text:
Audio in Media. 10th ed. Alten, Stanley R. Wadsworth/Cengage. 2013 (classic)

Other online resources such as:
Audio Engineering Society (http://www.aes.org/)
Interactive Audio Special Interest Group (http://www.iasig.org/)

Periodicals such as:
Mix Magazine, Electronic Musician Magazine

Instructor prepared materials.