MUSC 51A Course Outline as of Fall 2015

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	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 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:

Recommended Preparation:
Course Completion or Concurrent Enrollment in MUSC 50; (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 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:
Recommended: Course Completion or Concurrent Enrollment in MUSC 50; (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:

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. Upon completion of this course, students will be able to 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:
Upon completion of this course, students will be able to:
1. Explain the fundamental principles of sound, including acoustics and psychoacoustics.
2. Utilize and apply a working vocabulary of digital audio terminology.
3. Explicate and apply the fundamentals of digital recording.
4. Demonstrate hands-on proficiency with a DAW at an intermediate level.
5. Mix and edit digital audio tracks, including integration with MIDI.
6. Explain and demonstrate a variety of digital signal processing (DSP) techniques.

Topics and Scope:

Lecture Topics:
I. Principles of Audio
II. Fundamentals of Digital Recording
   A. Analog vs. digital
   B. Sampling
   C. Quantization
   D. Technologies and formats
   E. Storage media
   F. Digital Audio Workstations (DAWs)

III. Basic 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
IV. Digital Signal Processing (DSP)
  A. Understanding signal flow
  B. Audio plugins
V. Synthesis
  A. Understanding basic synthesizer architecture
  B. Building a synthesizer in a modular mode
  C. Survey of synthesizer types
VI. Samplers
  A. Building an instrument in a sampler environment
  B. Strategies for content within a sampler
  C. Using DSP in a sampler environment
VII. Survey of DAW Types
  A. Common DAW terms
  B. Work flow strategies
  C. Using a DAW to compose music in various genres
VIII. Digital Audio Editors
  A. Destructive editing
  B. Loop construction, file repair
  C. Applying irreversible changes to audio files
IX. 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
X. 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. Online tutorials: 2 hours per week at Groove3.com.
2. Hands-on proficiency demonstrations (3-5) with the hardware and software.
3. Quizzes (1-3) on vocabulary and technical terminology.
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.

Terminology quizzes	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). Alten, Stanley R. Wadsworth/Cengage: 2013
Other Online resources such as: Audio Engineering Society (http://www.aes.org/)
Periodicals such as: Mix Magazine, Electronic Musician Magazine
Instructor prepared materials