#### **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	<b>Course Hours Total</b>	
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:**

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.