MISSION VALLEY REGIONAL OCCUPATION PROGRAM
DIGITAL SOUND DESIGN OUTLINE

1. Course Title:

Digital Sound Design 1

2. CBEDS Title:

Other Visual Communication and Graphic Courses

3. CBEDS Number:

5798

4. Job Titles/DOT Codes:

Technical Level:	
Digitizer Operator	213.582-010
Audio Operator	194.262-010
Audio Technician	194.262-010
Sound controller	194.262-014
Sound Mixer	194.262-018
Tester, Sound	706.382-014
Sound Technician	829.281-022
Sound-Effects Technician	962.281-014
Sound Cutter	962.382-014
Sounder	911.667-018
Disc Recordist	962.382-010
Sound Truck Operator	962.281-018
Machine Room Operator	
Transfer	
Professional Level:	
Audio Engineer	194.262-010
Supervisor, Sound Technician	823.131-026
Manager, Sound Effects	962.167-010
Story Editor	132.037-026
Foley	

5. Course Description:

This 2-hour digital sound design course applies digital technology to various audio/sound engineering technicians. Sound engineering technicians use many types of recording equipment. They set up microphones to capture sounds. They use mixing boards to control the amount of input from different performers. For example, while recording a band, they may increase or decrease the volume of the drums, depending on the song.

Mixing boards are electronic or computer consoles. They often have hundreds of dials, switches, meters, and lights. Sound engineers watch the lights and meters to read the music. The meters and lights indicate which sounds are being recorded and how strong they are. As the music is performed, technicians adjust dials and move switches to change the input. They may adjust the recording level, volume, and tone quality to achieve the desired sound. Technicians are responsible for maintaining all their sound equipment.

Sometimes technicians work at live performances. They mix and edit voices and music using control boards. Technicians also record actors while they read their lines. Later, technicians add the actors' voices to the sound tracks of movies and TV shows. They may also add sound effects and music. Technicians must make sure that all sounds occur exactly when they should.

Hands-on training with recording applications, microphones, MIDI devices, audio mixers, effects processing, industry standard cables and connectors will provide a good foundation for all participants. Software applications including Digidesign's Pro Tools, Adobe Soundbooth and Steinberg Cubase are used to create audio for Radio theater, video and animation projects. Work on individual and team multimedia projects. Students will complete this class with a digital portfolio highlighting their technical skills and creative abilities.

6. Hours:

Class 360

7. Prerequisites:

Completion of Computer Operations and recommended 10th grade reading level.

8. Date of Revision: **Date of Biennial Review Approval:**

October 05, 2016 October 25, 2016

Abbreviations:

CC = **Community Classroom**
(unpaid, on-the-job, training experience at business sites)

CVE = **Cooperative Vocational Education**
(paid, on-the-job, training experience at business sites)

9. Course Outline:

	Career Preparation Standards Necessary skills for any occupation *(MVROP ESLR #1)*	**Class**	**CC**	**CVE**
I.	**WORKPLACE BASIC SKILLS AND BEHAVIORS**	Integrated throughout course		

	A.	Apply skills learned in class			
	B.	Analyze information and make decisions			
	C.	Communicate verbally and in writing			
	D.	Work independently and as a team member in a diverse workplace			
	E.	Work reliably, responsibly, and ethically			
		Career Technical Skills Occupational competencies *(MVROP ESLR #2)*			
II.		**INTRODUCTION TO COURSE**	5		
	A.	Learn course requirements, regulations, and procedures.			
	B.	Review course syllabus and student expectations.			
III.		**TECHNOLOGY**	15		
	A.	Select, operate, and maintain a variety of technologies (tools, machines, and computers).			
	B.	Use computers to process information and apply audio presentation of ideas.			
	C.	Research, compile, and complete written documents assigned.			
			Class	**CC**	**CVE**
IV.		**SAFETY STANDARDS**	10		
	A.	Follow safety instructions, drills, laws, and company policies.			
	B.	Stay alert for unsafe conditions and hazards.			
	C.	Keep a clean and ergonomic workstation.			
V.		**BUSINESS FUNCTIONS**	10		
	A.	Identify, plan, and manage time, materials, facilities, and human resources.			
	B.	Recognize areas of administration, operations, personnel, finance, legal, production, distribution, services, and marketing.			
VI.		**BASICS OF DIGITAL AUDIO**	20		
	A.	Basic Parameters of Sound: Waveform, Frequency and Amplitude.			
	B.	Recording and Playing Back Analog Audio			
	C.	Analog-to-Digital Conversion			
	D.	Recording in Digital Format			
VII.		**RECORDING**	60		
	A.	Analog and Digital Audio compared			
	B.	Recognize “good” quality audio			
	C.	Create and edit simple sound files			
	D.	Identify and capture audio at appropriate levels			
	E.	Demonstrate use of multitrack audio software			
	F.	Present work for class			
VIII.		**CHOOSING AND WORKING WITH MICROPHONES**	30		
	A.	Identify requirements for sound reproduction			
	B.	Live Performance			
	C.	Recording Studios			
	D.	Polar Pickup patterns			

	E.	Location acoustics	
	F	Sound Pressure Levels – SPL's	
IX.		**IMPORTING MEDIA INTO YOUR SOFTWARE**	10
	A.	Importing Audio	
	B.	Importing MIDI	
	C.	Importing Video	
X.		**MIDI – Musical Instrument Digital Interface**	60
	A.	Explain uses of MIDI	
	B.	Show methods for connecting MIDI devices	
	C.	Distinguish between tempos, bars and time signatures	
	D.	Employ synchronization techniques	
	E.	Employ use of MIDI channels (1-16)	
	F.	Compare and understand audio and digital outputs	
	G.	Create simple beats	
XI.		**BASIC EDITING TECHNIQUES**	40
	A.	Selecting Playback option	
	B.	Using Edit Modes	
	C.	Editing Regions	
	D.	Creating Folders	
XII.		**AUDIO MIXING BOARDS**	30
	A.	Understanding Inputs and Outputs	
	B.	Identifying channels and buses	
	C.	Optimizing signal flow and levels	
	D.	Microphone versus Line Level signals and channels	
	E.	EQ and signal processing	
	F.	Monitoring and amplification	
	G.	Live Sound	
XIII.		**CONNECTORS AND CABLES**	10
	A	Identifying and using analog cables	
	B.	Identifying and using data cables	
	C.	Identify appropriate cables for extending	
XIV.		**DATA MANAGEMENT**	40
	A.	Manage file locations	
	B.	MP3 versus Wave	
	C.	CD or web delivery	
	D.	Surround Sound – AC3 5.1, 7.1	

			Class	**CC**	**CVE**
		Career Path Strategies Strategic planning for a career *(MVROP ESLR #3)*			
XV.		**JOB EMPLOYMENT SKILLS**	20		
	A.	Develop a plan to achieve career goals.			
	1.	Prepare a career portfolio			
	B.	Use effective job search strategies			
	1.	Perform employment research			
	2.	Complete a job application and resume			

3. Develop effective interview and follow up skills

C. Demonstrate an awareness of the importance of lifelong learning

Hours 360

Total Approved Course Hours 360

10. Additional Items:

a. Articulation: none

b. Academic Credit: none

c. Instructional Strategies:

- Lecture
- Application Projects
- Reading Assignments
- Multi-Media
- Hands-on Practice
- Demonstration
- Team Learning

d. Instructional Materials: **Textbook Approval:** October 25, 2016

- *Adobe Audition Classroom in a Book*
- *Pro Tools Official Courseware*
- *Cubase Advanced Video Tutorials*

e. Certificate Competency List:

- Demonstrate Workplace Basic Skills and Behaviors
- Identify cables and connectors including: XLR, ¼" , stereo, mono, mini-stereo, RCA
- Understand Line-level vs Mic. Level signals
- Setup and optimize a multi-channel audio recording console.
- Operate Sound recording equipment and software.
- Create and Edit Music for Radio Theater, Video and Animation using Adobe Audition, Cubase Professional and Digidesign ProTools
- Create and Edit Sound Effects using Digidesign Pro Tools and Cubase Professional and Adobe Audition.
- Capture, Mix and record live audio for CD production.
- Use Effective Job Employment Skills