BUTTE COLLEGE
COURSE OUTLINE

I. **CATALOG DESCRIPTION**

RTVF 30 - Digital Audio Production **3 Unit(s)**

Prerequisite(s): NONE
Recommended Prep: Reading Level IV; English Level III
Transfer Status: CSU
34 hours Lecture
51 hours Lab

This course serves as an introduction to the theory and practice of audio production for radio, television, film and digital recording applications. Students will learn the fundamentals of sound design and aesthetics, microphone use, and digital recording equipment. Students gain hands on experience recording, editing, mixing and mastering audio. Upon completion, students will have basic knowledge of applied audio concepts, production workflow, equipment functions, and audio editing software.

II. **OBJECTIVES**

Upon successful completion of this course, the student will be able to:

A. Understand basic physics of sound terminology; the sound wave, frequency/pitch, amplitude/loudness, phase, and timbre.
B. Comprehend acoustics; microphone classification, placement and use; theory and practical use of consoles, computers and software; analog/digital recording and storage devices; patching; editing; time code; signal processors; loudspeakers.
C. Perform complex audio production techniques.
D. Describe audio production software interface.
E. Demonstrate refined techniques for audio production using Pro Tools or other appropriate audio software.
F. Understand audio used in studio and on-location production for radio, television and film.
G. Create sound effects and original sound clips for dynamic media.
H. Collect, create, analyze, and evaluate digital audio clips.
I. Understand audio processes for voice recording, multimedia production, sound design.
J. Outline the basic process for digitizing audio clips.
K. Complete applied projects to assess the student's knowledge of recording, editing, mixing, and balancing.
L. Evaluate and conduct both destructive and nondestructive waveform editing procedures.
M. Explore the emotional and physical perception of music, voice and sound and the aesthetics of audio mixing.
N. Demonstrate appropriate workplace behavior in a studio setting.

III. **COURSE CONTENT**

A. **Unit Titles/Suggested Time Schedule**

Lecture

Topics	Hours
1. An overview of the process of pre-production, production and post-production in digital audio, multi-track linear and nonlinear editing	6.00
2. Digital input and output options	5.00
3. Signal processing	5.00
4. Recording techniques (repair and restoration in the mix)	4.00

5. Techniques in music, sound effects and ambient sound	5.00
6. Soundtrack manipulation and exploration of the audio toolkit in appropriate editing software	6.00
7. Processes for integrating audio in digital media projects and cross platform editing	3.00
Total Hours	34.00

Lab

Topics	Hours
1. Produce linear and nonlinear editing for digital audio projects	12.00
2. Perform multiple recording techniques (repair and restoration in the mix)	8.00
3. Produce music using ambient effects and sound	10.00
4. Manipulate audio using appropriate editing software	12.00
5. Process audio in digital media projects using cross-platform editing	9.00
Total Hours	51.00

IV. **METHODS OF INSTRUCTION**

A. Lecture
B. Group Discussions
C. Class Activities
D. Homework: Students are required to complete two hours of outside-of-class homework for each hour of lecture
E. Demonstrations
F. Reading Assignments
G. Multimedia Presentations
H. Individual and Group Projects

V. **METHODS OF EVALUATION**

A. Quizzes
B. Projects
C. Class participation
D. Written Assignments
E. Mid-term and final examinations

VI. **EXAMPLES OF ASSIGNMENTS**

A. Reading Assignments
   1. From a list of popular press publications provided by the instructor, read an article about a new technology that is changing the audio recording industry. Post a summary of at least 200 words to the class online discussion board.
   2. Read about microphone transducers in the textbook. In class, be prepared to compare and contrast the different microphone transducer types.

B. Writing Assignments
   1. You are the audio engineer at a small coffee house. Write 500 words describing what microphone types you would use as sound reinforcement for an acoustic guitar and a vocalist. Describe the rationale for your choices.
   2. Given a list of recordings, listen to an analog and a digital recording. Write 500 words comparing and contrasting the audio quality of the two recordings.

C. Out-of-Class Assignments

1. From a concert list provided by the instructor, attend a musical performance then describe in at least 200 words, the audio quality in the class online discussion board. What was done well, what could be improved?
2. Based on information presented in the class text, write a 300 word minimum review of the acoustics of an indoor public place like a restaurant.

VII. **RECOMMENDED MATERIALS OF INSTRUCTION**

Textbooks:

A. Alten, Stanley A. Audio in Media. 5th Edition. Belmont, CA: Wadsworth Publishing, Co., 2013.

B. Ford, Meg. Radio Production. CreateSpace Independent Publishing Platform, 2013.

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