CUYAHOGA COMMUNITY COLLEGE
OFFICIAL COURSE OUTLINE

SUBJECT AREA TITLE
Recording Arts and Technology
COURSE TITLE
Sound Recording and Design
SUBJECT AREA CODE-COURSE NUMBER
RAT - 1100
COURSE CREDIT HOURS
3.00

I. DESCRIPTION OF COURSE:

1. CATALOG DESCRIPTION

   Introduction to theory of sound and recording process for media production. Course topics include principles of sound and hearing, audio terminology, recording equipment operation, storage mediums and recording techniques for location and studio applications. This is an introductory audio course for students interested in audio for video, television, film and digital media arts.

2. LECTURE HOURS: 1.0

3. LAB HOURS: 4.00

4. OTHER REQUIRED HOURS: 00
5. PREREQUISITE(S):
   Departmental Approval.

II. OUTCOMES/OBJECTIVES:

Upon satisfactory completion of RAT 1100 - Sound Recording and Design, the student should be able to perform the following outcomes and supporting objectives:

A. Explain the characteristics of sound and audio terminology.
   1. Explain audio terminology
   2. Identify and describe audio signal flow.
   3. Describe digital theory.

B. Perform voice recording and editing.
   1. Name and describe microphone types, patterns and characteristics.
   2. Demonstrate microphone placement techniques.
   3. Demonstrate location recording techniques.
   4. Demonstrate interview recording.

C. Perform sound effects recording.
   1. Demonstrate mono and stereo recording with and without a mixer.
   2. Describe location recording formats.
   3. Demonstrate ambience recording

4. Describe Sound Design asthetic principles

D. Perform editing of voice and sound to complete specific recording projects.
   1. Demonstrate dialog editing.
   2. Demonstrate music editing.
   3. Demonstrate layback.
   4. Demonstrate remixing.
   5. Demonstrate automated dialog replacement (ADR).
   6. Demonstrate project organization and workflow.

III. COURSE CONTENT:

A. Characteristics of sound
   1. How the ear reacts to sound
   2. Fundamental waveform characteristics
   3. Sound spectrum by octave band
   4. Comparing frequencies to musical instrument ranges Fletcher-Munson curve
   5. Masking
   6. Basic audio terminology

B. Audio signal flow and operation
   1. Equipment setup
   2. Signal routing
   3. Mixer signal flow
   4. Input types
   5. Audio connectors
   6. Mixer operation

C. Digital recording principles
   1. Fundamental digital audio principles
   2. Digital recording process
   3. Digital recorder types
   4. New technologies
   5. Documentation/Logging

D. Voice recording
   1. Voice recording
   2. Voice editing
   3. Music and Sound Effects Production libraries
   4. Music and SFX clearance

E. Microphone types, characteristics and uses
   1. Microphone polar patterns
   2. Microphone frequency response
   3. Dynamic microphones
   4. Condenser microphones
   5. Wireless microphones
   6. Specialty microphones
   7. Stereo microphone placement
   8. Close microphone placement
   9. Distant microphone placement
   10. Ambient mic placement
   11. Boundary microphone placement
   12. Multi-microphone considerations

F. Location recording techniques
   1. Location recording terminology
   2. Location recording equipment

3. Pre-production planning
4. Portable mixer operation
5. Podium microphone techniques
6. Conference recording techniques
7. House system interface
8. Announcer microphone technique
9. Crowd microphone technique
10. SPORTS microphone technique
11. Boom and fish pole technique
12. Sound effect (SFX) recording
13. Stereo microphone placement and techniques

G. Audio Post Production
1. Post production terminology
2. Post Production personnel
3. Post production process
4. Project organization and workflow
5. Automated dialog replacement (ADR)
6. Ambience recording
7. Foley and Sound Design
8. Dialog editing
9. Music editing
10. Layback
11. Remixing
12. Final format
13. Aesthetic considerations

H. Delivery formats
1. Audio for DVD
2. Audio for CD
3. Audio for Web applications
   a. Streaming audio
   b. Streaming video
4. Film and Video formats
5. Audio
6. Encoding methods
   a. Software
   b. Hardware

IV. METHODS OF STUDENT EVALUATION MAY INCLUDE ANY OF THE FOLLOWING:

A. Participation and discussion
B. Written assignments
C. Lab Assigments
D. Exams covering assigned reading and lecture material.

V. RESOURCES MAY INCLUDE ANY OF THE FOLLOWING:

A. Alten, Stanley R. *Audio in Media*. 7th ed. Belmont: Thomson , 2005.
B. Bartlett, Bruce. *On-Location Recording Techniques*. Boston: Focal Press, 1999.

C. Rona, Jeff. *The Reel World, Scoring for Pictures*. San Francisco: Miller Freeman Books, 2000.

VI. ADDITIONAL RESOURCES: