RAT-1511: RECORDING LAB I

Cuyahoga Community College

Viewing: RAT-1511 : Recording Lab I
Board of Trustees:
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Academic Term:
2018-08-27

Subject Code
RAT - Recording Arts & Technology

Course Number:
1511

Title:
Recording Lab I

Catalog Description:
Practical applications of analog and digital theory and techniques covered in Recording Theory I. Student will record and mix multi-track music and audio for video projects in a professional studio environment.

Credit Hour(s):
2

Lecture Hour(s):
0
Lab Hour(s):
6

Requisites

Prerequisite and Corequisite
RAT-1311 Studio Operations, and RAT-1320 Audio Transducers, or concurrent enrollment; and concurrent enrollment in RAT-1500 Recording Theory I, and departmental approval.

Outcomes
Course Outcome(s):
Monitor two-track program reference material and multi-track recordings with large format recording consoles.

Essential Learning Outcome Mapping:
Not Applicable: No Essential Learning Outcomes mapped. This course does not require application-level assignments that demonstrate mastery in any of the Essential Learning Outcomes.

Objective(s):
1. Operate console control room source selection functions.
2. Choose appropriate listening levels.
3. Demonstrate appropriate patch bay routing.
4. Monitor source material using line or monitor inputs of console.
5. Use console speaker selectors to monitor through different speakers.
6. Operate external two-track to playback program material.
7. Classify relative volume levels of instruments in a recorded mix.
8. Classify relative panning positions of instruments in a recorded mix.
9. Classify relative frequency bandwidth of instruments in a recorded mix.
10. Distinguish between mp3 and uncompressed digital audio file formats.

Course Outcome(s):
Demonstrate multi-track overdubbing setup and processes using large format recording consoles.

Essential Learning Outcome Mapping:

Not Applicable: No Essential Learning Outcomes mapped. This course does not require application-level assignments that demonstrate mastery in any of the Essential Learning Outcomes.

Objective(s):

1. Demonstrate basic microphone setup/positioning.
2. Adjust microphone filters and polar pattern selection.
3. Adjust microphone stands.
4. Route microphone signal from tracking space to control room.
5. Route microphone through console input path to multi-track recorder (MTR).
6. Route recorded signal from MTR to console monitor path.
7. Create and adjust talent cue sends on console.
8. Route cue send/talkback from console to tracking room through studio headphone system.
9. Demonstrate basic vocal recording techniques.
10. Demonstrate basic drum set recording techniques using multiple microphones.
11. Demonstrate basic electric bass guitar recording techniques using microphones and direct injection (D.I.) techniques.
12. Demonstrate basic electric guitar recording techniques using microphones and D.I. techniques.
13. Demonstrate basic electric keyboard recording techniques using direct injection D.I. techniques.

Course Outcome(s):

Demonstrate intermediate multi-track mixing techniques.

Essential Learning Outcome Mapping:

Not Applicable: No Essential Learning Outcomes mapped. This course does not require application-level assignments that demonstrate mastery in any of the Essential Learning Outcomes.

Objective(s):

1. Demonstrate digital audio workstation (D.A.W.) session template creation.
2. Adjust console/D.A.W. pans to create mix width and clarity.
3. Adjust console/ D.A.W. faders to create mix volume balance.
4. Adjust console/ D.A.W. filters and equalization to create mix frequency balance.
5. Demonstrate mix layback routing and recording.

Course Outcome(s):

Demonstrate multi-instrument (full ensemble) recording session setup and routing.

Essential Learning Outcome Mapping:

Not Applicable: No Essential Learning Outcomes mapped. This course does not require application-level assignments that demonstrate mastery in any of the Essential Learning Outcomes.

Objective(s):

1. Develop and use session documentation such as microphone input sheets, room layout diagrams and equipment lists.
2. Position "studio gobos" to control early reflections.
3. Demonstrate basic microphone setup/positioning.
4. Adjust microphone filters and polar pattern selection.
5. Adjust microphone stands.
6. Route microphone signal from tracking space to control room.
7. Route microphone through console input path to MTR.
8. Route recorded signal from MTR (multi-track recorder) to console monitor path.
9. Create and adjust talent cue sends using console.
10. Route cue send/talkback from console to tracking room through headphone amp.

Course Outcome(s):

Demonstrate fundamental digital audio workstation techniques and processes.

Essential Learning Outcome Mapping:

Not Applicable: No Essential Learning Outcomes mapped. This course does not require application-level assignments that demonstrate mastery in any of the Essential Learning Outcomes.

Objective(s):

1. Demonstrate professional file management and session naming conventions.
2. Demonstrate software session file set up techniques.
3. Demonstrate D.A.W. track creation and naming within software.

4. Manipulate internal routing and signal flow within D.A.W. and connected hardware interfaces.
5. Demonstrate D.A.W. session backup/archiving techniques.

Methods of Evaluation:
1. Lab Practicals
2. Evaluation of student projects
3. Signal flow quizes
4. Participation

Course Content Outline:
1. Project planning and documentation
    a. Pre-production planning procedures
    b. Track/log/journal documentation procedures
    c. Planning for needed equipment
    d. Microphone and equipment choices
2. Session setup/strike
    a. Room and equipment power up/down procedures
    b. Microphone/instrument/equipment signal routing
    c. Digital audio workstation/multi-track tape recorder set up and preferences
    d. Auxiliary equipment/supplies
    e. Session back up and restore
3. Tracking session recording techniques
    a. Microphone and equipment techniques
    b. Cue mix techniques
    c. Auxiliary equipment routing techniques
    d. Critical thinking/problem solving
4. Mixing and editing techniques
    a. Console and signal gain structure
    b. Instrument/vocal balance
    c. Top/bottom equalization (EQ) balance
    d. Depth of sound field
    e. Mix dynamics
    f. Signal processing choices
    g. Consistency between mixes
    h. Editing/assembly/presentation of finished project
5. Human relations and talent management
    a. Punctuality and dependability
    b. Teamwork with co-engineers
    c. Interaction with talent/clients
    d. Self-sufficiency
    e. Professional behavior

Resources

Boyd, Brian C. *CCA 026A Quick Start Guide for Students Staff.* 3rd ed. Cleveland, OH: Cuyahoga Community College, 2011.

Boyd, Brian. *CCA 028 Quick Start Guide for Students Staff.* 3rd ed. Cleveland, OH: Cuyahoga Community College, 2011.

Boyd, Brian. *CCA 30 Quick Start Guide for Students Staff.* 3rd ed. Cleveland, OH: Cuyahoga Community College, 2011.

Boyd, Brian. *CCA 033 Quick Start Guide for Students and Staff.* 3rd ed. Cleveland, OH: Cuyahoga Community College, 2011.

Boyd, Brian. *CCA 034 Quick Start Guide for Students Staff.* 3rd ed. Cleveland, OH: Cuyahoga Community College, 2011.

Izhaki, Roey. (2013) *Mixing Audio,* Burlington, MA: Elsevier/Focal Press.

Huber, David Miles and Runstein, Robert E. (2014) *Modern Recording Techniques,*Burlington, MA: Elsevier/Focal Press.

Bartlett, Bruce and Bartlett, Jenny. (2014) *Practical Recording Techniques: The Step by Step Approach to Professional Audio Recording,*Burlington, MA: Elsevier/Focal Press.

Lellis, Carlos. (2013) *Music Production: Recording,*Burlington, MA: Elsevier/Focal Press.

Dowsett, Peter. (2015) *Audio Production Tips,*Burlington, MA: Elsevier/Focal Press.

Winer, Ethan. (2012) *The Audio Expert,*Burlington, MA: Elsevier/Focal Press.

Senior, Mike. (2014) *Recording Secrets for the Small Studio,*Burlington, MA: Elsevier/Focal Press.

Owsinski, Bobby. *The Recording Engineer's Handbook.* 2nd ed. Boston, MA: Course Technology PTR, 2009.

Resources Other
1. Instructor course lab manual
2. Student reference headphones
3. *Crooked River Groove* multi-track projects
4. R.A.T. Recording Workshop multi-track sessions

Top of page
Key: 3901