Live Entertainment

MISSISSIPPI CURRICULUM FRAMEWORK

CIP: 10.0299- Live Entertainment Technology

2021

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The Office of Curriculum and Instruction (OCI) was founded in 2013 under the Division of Workforce, Career, and Technical Education at the Mississippi Community College Board (MCCB). The office is funded through a partnership with The Mississippi Department of Education (MDE), who serves as Mississippi's fiscal agent for state and federal Career and Technical Education (CTE) Funds. The OCI is tasked with developing statewide CTE curriculum, programming, and professional development designed to meet the local and statewide economic demand.

For information, please contact curriculum@mccb.edu

Contents

NATIONAL CERTIFICATION & STANDARDS

The Pro Tools Fundamentals I (PT101) course introduces fundamental Pro Tools concepts and principles. Students also learn to build sessions that include multi-track recordings of live audio, MIDI sequences and virtual instruments. Hands-on exercises and projects introduce essential techniques for creating sessions, recording and importing audio and MIDI, editing session media, navigating sessions and arranging media on tracks, and using basic processing and mixing techniques to finalize a production.

Included in the series is Pro Tools Fundamentals II (PT110). The Pro Tools Fundamentals II (PT110) course expands upon the basic principles taught in the Pro Tools Fundamentals I (PT101) course and introduces the core concepts and techniques students need to fully operate a Pro Tools system running mid-sized sessions. Students learn to build sessions designed for commercial purposes and improve the results of their recording, editing, and mixing efforts. The hands-on exercises provide experience setting up sessions, importing media, working with digital video, spotting sound effects, using loop recording and MIDI Merge techniques, working with virtual instruments, warping with Elastic Audio, applying Real-Time Properties, creating clip loops, applying signal processing, using automation, and using submixes and track groups to simplify a final mix.

For additional information, please visit the following websites.

https://www.avid.com/books/pro-tools-fundamentals-i
https://www.avid.com/courses/pt110-pro-tools-fundamentals-ii

Industry Job Projection Data

A summary of occupational data is available from the Mississippi Department of Employment Security.

https://mdes.ms.gov/information-center/labor-market-information/

Articulation

Articulation credit from Secondary to Postsecondary will be awarded upon implementation of this curriculum by the college. Local agreements and dual credit partnerships are encouraged.

Technical Skills Assessment

CIP Code	Program of Study
10.0299	**Live Entertainment Technology**
Level	**Standard Assessment**
Accelerated /15 Hour	N/A
Level	**Standard Assessment**
Career	Pro-Tools
Level	**Standard Assessment**
Technical/AAS	N/A

Research Abstract

In the summer of 2021, the Office of Curriculum, Instruction, and Assessment met with the different industry members who made up the advisory committees for the Live Entertainment program. A virtual meeting was held to gather feedback concerning the trends and needs, both current and future, of their field. Program faculty, administrators, and industry members were consulted regarding industry workforce needs and trends. Industry advisory team members from the college were asked to give input to develop this new curriculum framework.

Program Description

Live entertainment technicians enhance live performances by affecting the audience's senses using audio, video, and lighting technologies appropriate to the production and its environment. The Live Entertainment Technology curriculum prepares individuals for entry-level employment in the entertainment industry, particularly in the fields of concert sound and lighting. Course work includes exposure to the entire live concert sound and lighting processes. Students will learn the fundamental knowledge, skills and abilities to design, maintain, and operate technology systems in entertainment and sporting venues, churches, auditoriums, casinos, theatres, convention hotels, and trade shows. Course work will also include music business, entertainment law and promotion, music theory, electronic music, and recording engineering.

Suggested Course Sequence

Accelerated Integrated Career Pathway

			SCH Breakdown		
Course Number	Course Name	Semester Credit Hours	Lecture	Lab	Total Contact Hours
LVT 1012	Introduction to Live Entertainment	2	1	2	45
LVT 1114	Audio Principles	4	2	4	90

LVT 1123	Live Sound Production I	3	1	4	75
LVT 1133	Concert Lighting I	3	2	2	60
LVT 2273	Basic Electricity for Live Entertainment	3	2	2	60
	Total	**15**			

CAREER CERTIFICATE REQUIRED COURSES

			SCH Breakdown		
Course Number	Course Name	Semester Credit Hours	Lecture	Lab	Total Contact Hours
LVT 1012	Introduction to Live Entertainment	2	1	2	45
LVT 1114	Audio Principles	4	2	4	90
LVT 1123	Live Sound Production I	3	1	4	75
LVT 1133	Concert Lighting I	3	2	2	60
LVT 2273	Basic Electricity for Live Entertainment	3	2	2	60
LVT 1211	Critical Listening I	1	1	0	15
LVT 2132	Entertainment Promotion	2	2	0	30
LVT 1223	Live Sound Production II	3	1	4	75
LVT 1233	Entertainment Law	3	3	0	45
LVT 1243	Sequencing for Music Production	3	1	4	75
LVT 1253	Recording Engineering I	3	2	2	60
	Total	**30**			

AUDIO CONCENTRATION REQUIRED COURSES

			SCH Breakdown*		
Course Number	Course Name	Semester Credit Hours	Lecture	Lab	Total Contact Hours

LVT 2313	Equipment Maintenance	3	1	4	75
LVT 2321	Live Production/Entertainment Management	1	1	0	15
LVT 2332	Live Entertainment Production Project	2	2	0	30
LVT 2343	Mixing Techniques	3	1	4	75
LVT 2353	Live Broadcast Production	3	1	4	75
LVT 2363	Acoustics	3	2	2	60
	TOTAL	**15**			

LIGHTING & MULTIMEDIA CONCENTRATION REQUIRED COURSES

LVT 2313	Equipment Maintenance	3	1	4	75
LVT 2321	Live Production/Entertainment Management	1	1	0	15
LVT 2332	Live Entertainment Production Project	2	2	0	30
LVT 2373	Concert Lighting II	3	2	2	60
LVT 2383	Automated Lighting	3	2	2	60

LVT 2393	Multimedia Production	3	1	4	75
	TOTAL	**15**			

ELECTIVES- Live Entertainment Technology

			SCH Breakdown				Contact Hour Breakdown		
Course Number	Course Name	Semester Credit Hours	Lecture	Lab	Clinical/ Intern	Total Contact Hours	Lecture	Lab	Clinical/ Intern
SSP 100(2-3)	Smart Start 101	2-3							
WBL 191(1-3) WBL 192(1-3) WBL 193(1-3) WBL 291(1-3) WBL 292(1-3) WBL 293(1-3)	Work Based Learning								
	Instructor Approved Electives per Local Community College								

General Education Core Courses

To receive the Associate of Applied Science degree, a student must complete all of the required coursework found in the Career Certificate option, Technical certificate option, and a minimum of 15 semester hours of General Education core. The courses in the General Education Core may be spaced out over the entire length of the program so that students complete some academic and Career Technical courses each semester or provided primarily within the last semester. Each community college will specify the actual courses that are required to meet the General Education Core Requirements for the Associate of Applied Science degree at their college. The

Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) Section 9 Standard 3 of the *Principles of Accreditation: Foundations for Quality Enhancement*[1] describes the general education core.

Section 9 Standard 3:

3. The institution requires the successful completion of a general education component at the undergraduate level that

   a) is based on a coherent rationale.

   b) is a substantial component of each undergraduate degree program. For degree completion in associate programs, the component constitutes a minimum of 15 semester hours of the equivalent; for baccalaureate programs, a minimum of 30 semester hours or the equivalent.

   c) ensures breadth of knowledge. These credit hours include at least one course from each of the following areas: humanities/fine arts, social/behavioral sciences, and natural science/mathematics. These courses do not narrowly focus on those skills, techniques, and procedures specific to a particular occupation or profession.

General Education Courses

			SCH Breakdown			Contact Hour Breakdown		Certification Information
Course Number	Course Name	Semester Credit Hours	Lecture	Lab	Total Contact Hours	Lecture	Lab	Certification Name
	Humanities/Fine Arts	3						
	Social/Behavioral Sciences	3						
	Math/Science	3						
	Academic electives	6						
	TOTAL	**15**						

COURSE DESCRIPTIONS

Course Number and Name: **LVT 1012** **Introduction to Live Entertainment**

Description: This course introduces concepts of the various technology systems involved with live entertainment events. Topics include components and the basic operation of these systems, technical requirements for events and venues, and a survey of industry job descriptions and employment opportunities. Upon

[1] Southern Association of Colleges and Schools Commission on Colleges. (2017). *The Principles of Accreditation: Foundations for Quality Enhancement*. Retrieved from http://www.sacscoc.org/2017ProposedPrinc/Proposed%20Principles%20Adopted%20by%20BOT.pdf

completion, students should be able to describe the equipment required for live events, the technical requirements of touring performance events, and employment in the industry.

Hour Breakdown:

Semester Credit Hours	Lecture	Lab	Contact Hours
2	1	2	45

Prerequisite: Instructor Approved

Student Learning Outcomes:

1. Demonstrate knowledge of the major aspects of the live entertainment industry.
    a. Identify the major segments of the live entertainment industry and be able to explain how each operates.
    b. Identify key companies and individuals involved in the live entertainment industry today.

2. Demonstrate knowledge of how the live entertainment industry impacts society.
    a. Demonstrate knowledge of live entertainment attendant motivations.
    b. Demonstrate knowledge of the effects of live entertainment on society.
    c. Demonstrate the use of psychology in the live entertainment experience.

3. Demonstrate knowledge of career opportunities within the live entertainment industry.
    a. Identify careers and roles in the live entertainment industry.

Course Number and Name: **LVT 1114 Audio Principles**

Description: This course introduces audio fundamentals in theory and practice. Topics include: principles of audio electronics and the decibel scale; electromagnetic induction; power, ground, and amplifiers; core concepts in digital audio; console and DAW signal flow, routing, and gain staging; microphone and loudspeaker principles and applications; signal processing, including compression and equalization. Class meetings consist of lectures, demonstrations, and hands-on

training. Upon completion, students should be able to describe and demonstrate an applied understanding of the principles of audio electronics.

Hour Breakdown:

Semester Credit Hours	Lecture	Lab	Contact Hours
4	2	4	90

Prerequisite: Instructor Approved

Student Learning Outcomes:

1. Demonstrate knowledge of basic principles of sound.

2. Demonstrate knowledge of a variety of audio equipment used for live performances. *ProTools101 1.2*
    a. Demonstrate knowledge of live sound reinforcement equipment.
    b. Set up and utilize a variety of live sound reinforcement equipment.
    c. Identify cables used in the entertainment industry.
    d. Identify different types of microphones for live & studio usage.
    e. Demonstrate knowledge of proper microphone placement for various instruments.

National Standard

ProTools101 1.2

Course Number and Name: **LVT 1123 Live Sound Production I**

Description: This course introduces the concepts and technical skills required for live event sound reinforcement. Topics include the operation and inter-connection of components of a basic sound system, including consoles, amplifiers, speakers, processors and microphones. Upon completion, students should apply the concepts of live sound reinforcement and set up and operate a small to medium-scale sound system for a live event.

Hour Breakdown:

Semester Credit Hours	Lecture	Lab	Contact Hours
3	1	4	75

Prerequisite: Instructor Approved

Student Learning Outcomes:

1. Understand and differentiate between different sound system designs and their use.
    a. Describe the signal flow in a sound system.
    b. Describe the difference between digital and analog consoles, as well as their intended use.

2. Demonstrate operation of basic sound system equipment including dynamics processors, equalizers, crossovers and effects devices. ProTools101 1.3

    a. Demonstrate use of digital consoles.
    b. Demonstrate use of analog consoles.

3. Demonstrate basic microphone techniques used in sound reproduction.
    a. Identify how to adjust microphone placement for all stage productions.
    b. Identify how to adjust microphone settings to eliminate unwanted sounds or for music productions.

4. Demonstrate ability to properly set up and operate a small sound system running 1 sound board and a maximum of 12 channels. ProTools101 1.3

National Standard
ProTools101 1.3

Course Number and Name: **LVT 1133** **Concert Lighting I**

Description: This course is an introduction to the technical aspects of concert lighting. Topics include basic design, color theory, types of instruments, power distribution, control and safety, proper hanging, connection, focus, and control of instruments. Upon completion, students should be able to explain basic concert lighting, color theory, and instrumentation, and to properly set up a variety of instruments.

Hour Breakdown:

Semester Credit Hours	Lecture	Lab	Contact Hours
3	2	2	60

Prerequisite: Instructor Approved

Student Learning Outcomes:

1. Demonstrate basic knowledge about lighting fixtures for live entertainment.
    a. Differentiate between conventional vs. LED lighting.
    b. Identify the different types of lighting fixtures used in live entertainment: Par, Fresnel, Ellipsoidal, Moving Fixtures.
    c. Identify power consumption of different lighting fixtures used in live entertainment.
    d. Demonstrate the ability to select appropriate lighting fixtures for live entertainment.

2. Identify power consumption of different lighting fixtures used in live entertainment.
    a. Develop an understanding of 3-phase power distribution.

3. Demonstrate knowledge of digital communication protocols used to control lighting fixtures.
    a. Explore and understand a digital multiplex (DMX).
    b. Demonstrate knowledge of signal flow.
    c. Identify types of lighting connectors: 3-pin, 5-pin, opto splitter, SOCAPEX.
    d. Demonstrate knowledge of a DMX universe.

4. Understand the basics of color theory for concert lighting.
    a. Demonstrate knowledge about additive and subtractive color mixing.

5. Demonstrate ability to identify and program the major lighting console brands.

6. Demonstrate ability to properly hang and hook up a variety of lighting fixtures.

Course Number and Name: **LVT 1211 Critical Listening I**

Description: This course focuses on developing critical listening skills, with particular emphasis on engineering analysis within the context of the popular music mix. Topics include: psychoacoustics of the critical listening environment; engineering techniques such as balance, panning, EQ, reverb, compression, delay and time-based effects instrument identification; and stylistic comparisons of engineering and mix techniques. In-class listening analysis concepts are reinforced through out-of-class critical listening assignments. Upon completion, students should be able to identify and describe balance, panning, EQ, reverb, compression, delay and time-based effects, instruments, and mixing styles.

Hour Breakdown:

Semester Credit Hours	Lecture	Lab	Contact Hours
1	1	0	15

Prerequisite: Instructor Approved

Student Learning Outcomes:

1. Understand all audio effects used in recordings - past and present (reverb, delay, compression ratio's, limiters).
2. Understand the difference between digital vs analog in a recording studio.
3. Identify proper mixing techniques *ProTools101 1.4.*
4. Understand how to properly EQ each instrument.
5. Explain the function of a crossover.

National Standard

ProTools101 1.4

Course Number and Name: **LVT 1223 Live Sound Production II**

Description: This course continues instruction in concepts and technical skills required for live event sound reinforcement. Topics include advanced sound system setup and operation, in-depth operation of program and monitor consoles, System E.Q., and flown speaker arrays. Upon completion, students will be able to design, set up, and operate large-scale sound systems in various venues.

Hour Breakdown:

Semester Credit Hours	Lecture	Lab	Contact Hours
3	1	4	75

Prerequisite: Instructor Approved

Student Learning Outcomes:

1. Demonstrate a working knowledge of the monitor engineer role. ProTools101 1.6
    a. Turn on/off monitor world correctly.
    b. Wire and patch a stage using sub snakes.
    c. Understand monitor systems signal flow.
    d. Identify industry standard wedge mix positions.
    e. Understands necessity of system equalizer on each mix.
    f. Utilize cue system.
    g. Patch and explain inserted mix equalizers
    h. Utilize control groups (VCA, Mute).
    i. Understands aux sends including aux masters (pre & post fader).
2. Create an industry standard stage plot and input list.
3. Demonstrate how to prepare monitor systems / stage for artists arrival.
4. Successfully operate a motor control system for flying a sound system.
5. Understand the role of the front of house engineer.
6. Demonstrate proper mixing techniques for running sound from both front of house and monitor world.

National Standard
ProTools101 1.6

Course Number and Name: **LVT 1233 Entertainment Law**

Description: This course introduces the legal aspects of the entertainment industry. Topics include performance rights, songwriting and personal appearance contracts, copyright law, trademarks, and the like. Upon completion, students should be able to explain the basic elements of a contract, recognizing, explaining, and evaluating elements of law that pertain to entertainment.

Hour Breakdown:

Semester Credit Hours	Lecture	Lab	Contact Hours
3	3	0	45

Prerequisite: Instructor Approved

Student Learning Outcomes:

1. Demonstrate understanding of the legal aspects of the processes of production, distribution, and exhibition of entertainment media products and services.
2. Exhibit knowledge of the standard contractual provisions in the entertainment area.
3. Assess the provisions of entertainment contracts and show understanding of what should be amended.
4. Exhibit knowledge of the process for obtaining rights, as well as of the clearance process for an entertainment project, and of how to deal with author societies.
5. Identify the risk of legal claims in the entertainment area.
6. Understand copyright laws and trademarks.
7. Understand the importance of performance rights organization and how to become registered with ASCAP & BMI.
8. Display comprehension of the concept of defamation (including defamation of religions).
9. Understand the scope of the right to privacy of entertainers.

Course Number and Name: **LVT 1243 Sequencing for Music Production**

Description: The Sequencing Technology course explores the use of MIDI-based hardware and software in music production, live performance, and studio control. This course provides an opportunity to study and explore various electronic instruments and devices. Emphasis is placed on fundamental MIDI applications and implementation, features and application of sequences, sound modules, and digital keyboards. Upon completion, students should be able to demonstrate proficiency by creation of appropriate musical projects using the equipment and techniques covered.

Hour Breakdown:

Semester Credit Hours	Lecture	Lab	Contact Hours
3	1	4	75

Prerequisite: Instructor Approved

Student Learning Outcomes:

1. Demonstrate a working knowledge of MIDI and midi programming functions.[ProTools101 1.4]
2. Construct a multitrack session from scratch.
3. Demonstrate knowledge of a variety of recording, mixing, & mastering software.
4. Demonstrate an appropriate implementation of basic techniques of audio signal flow through analog and digital signal chains.
5. Develop a critical ear for aspects of individual tracks in a recording session.
6. Explain the basic principles of acoustics and sound, including analog to digital audio conversion.

National Standard

ProTools101 1.4

Course Number and Name: **LVT 1253** **Recording Engineering I**

Description: This course covers basic topics in the operation of an audio recording studio. Topics include audio theory, console, tape machine, processor operation, proper microphone placement, multi-track mixing techniques, and session procedures. Upon completion, students should be able record, mix, and edit in recording sessions.

Hour Breakdown:

Semester Credit Hours	Lecture	Lab	Contact Hours
3	2	2	60

Prerequisite: Instructor Approved

Student Learning Outcomes:

1. Assess characteristics of various microphones and evaluate microphone technique strategies when in a recording studio.
2. Identify basic hardware, consoles, and components of a modern recording studio.
3. Understand audio theory & phantom power.
4. Demonstrate knowledge of Pro Tools. *ProTools101 1.1, ProTools101 1.6*
5. Record and track an artist from scratch. *ProTools101 1.3*
6. Understand the difference between mixing and mastering. *ProTools101 1.5*
7. Mix and master a recorded track.

National Standard

ProTools101 1.1
ProTools101 1.6
ProTools101 1.3
ProTools101 1.5

Course Number and Name: **LVT 2132** **Entertainment Promotion**

Description: This course examines the elements of marketing and promotion as specifically applicable to the entertainment business. Topics include the creation of publicity materials, understanding the process of developing media relations, developing a press kit, and creating a publicity campaign. Upon completion, students should be able to create a marketing and promotion campaign.

Hour Breakdown:

Semester Credit Hours	Lecture	Lab	Contact Hours
2	2	0	30

Prerequisite: Instructor Approved

Student Learning Outcomes:

1. Produce a viable Event/Concert Budget, Marketing Plan and Event execution timeline.
2. Develop and manage a marketing campaign for a Live Event.
3. Identify external considerations involved in Concert Promotions and Venue Management.
4. Develop a press kit and one sheet.
5. Produce a press release.

Course Number and Name: **LVT 2273 Basic Electricity for Live Entertainment Technology**

Description: An introduction to the use of electricity in live entertainment. Voltage, current, power, resistance, and wattage are covered, using practical examples from the entertainment field. Power generation and distribution, three-phase power, OSHA Safety requirements and the National Electric Code as it pertains to live entertainment are covered. Specific applications for lighting, sound, video and scenic automation will be used throughout the class. A hands-on lab reinforcing and extending the entertainment related electrical concepts covered in LVT 2273, Basic Electricity for Live Entertainment is also utilized. Students will gain hands-on experience with live entertainment electrical technologies, learn to use basic measurement tools and test equipment, while extending their understanding of the electrical concepts introduced in LVT 2273. Program specific lags will be drawn from the entertainment fields of lighting, sound, video and scenic automation.

Hour Breakdown:

Semester Credit Hours	Lecture	Lab	Contact Hours
3	2	0	30

Prerequisite: Instructor Approved

Student Learning Outcomes:

Electrical Safety

1. Identify electrical hazards and their effects relative to Live Entertainment.
    a. Understand the effects of electrical shock on the human body.
    b. Verify that circuits are de-energized.
2. Use PPE to reduce the risk of injury.
    a. Identify OSHA requirements for protective equipment relative to Live Entertainment.
    b. Select and use protective equipment.
3. Identify the standards that relate to electrical safety.
    a. Apply OSHA requirements relative to Live Entertainment in the workplace.

Electrical Circuits

1. Describe atomic structures as it related to electricity.
    a. Identify the components of an atom.
    b. Compare the atomic structures of conductors and insulators.
    c. Identify the role of magnetism in electrical devices relative to Live Entertainment.
    d. Identify the basic components in a power distribution system relative to Live Entertainment.
2. Identify electrical units of measurements.
    a. Define current.
    b. Define voltage.
    c. Define resistance
    d. Use Ohm's law to solve for unknown circuit values.
3. Read schematic diagrams relative to Live Entertainment.
    a. Identify the symbol for resister and determine its value based on color codes.
    b. Distinguish between series and parallel circuits
    c. Identify the instruments used to measure circuit values relative to Live Entertainment.
    d. Calculate electrical power.
    e. Introduce the NEC relative to Live Entertainment.
4. Solve problems using Ohm's law.
    a. List three formula for Ohm's law.

b. Solve problems for an unknown voltage, amperage, resistance, and wattage relative to Live Entertainment.

Electrical Theory

1. Calculate values in resistive circuits.
    a. Identify resistances in series.
    b. Identify resistances in parallel.
    c. Simplify series-parallel circuits.
    d. Apply Ohm's law to various types of circuits.
2. Apply Kirchhoff's law to various types of circuits.
    a. Use Kirchhoff's current law.
    b. Use Kirchhoff's voltage law.
3. Make power calculations in AC circuits.
    a. Calculate true power.
    b. Calculate apparent power.
    c. Calculate reactive power.
    d. Calculate power factor.
    e. Use the power triangle to determine unknown value.

Course Number and Name: **LVT 2313** **Equipment Maintenance**

Description: This course is designed to introduce basic concepts and techniques for maintaining and repairing sound and lighting equipment. Topics include basic maintenance, troubleshooting, soldering, wiring standards, calibration, and testing. Upon completion, students should be able to perform preventative maintenance and minor repairs on a wide variety of sound, lighting, and performance-related equipment.

Hour Breakdown:

Semester Credit Hours	Lecture	Lab	Contact Hours
3	2	2	60

Prerequisite: Instructor Approved

Student Learning Outcomes:

1. Student should be able to take a part an active and a passive speaker and troubleshoot potential issues.[ProTools101 1.2]
2. Understand how to clean and store lights when not in use.
3. Understand how to properly change a bulb and gobo in moving lights.
4. Learn to solder.
5. Learn wiring diagrams and how to make XLR, DMX, Power-CON, BNC, NL4, NL2.
6. Understand how to setup and maintain wireless audio transmission.
7. Understand the RF frequency spectrum for wireless mics. What is allows and what is not allowed in certain regions of the United States.

National Standard

ProTools101 1.2

Course Number and Name: **LVT 2321 Live Production/Entertainment Management**

Description: This course explores the principles, personnel, and skills needed to plan and execute various live events. Upon completion, students will create plans for live events that include technology implementation, systems design, documentation, and techniques used in developing preproduction strategies and post-event evaluations.

Hour Breakdown:

Semester Credit Hours	Lecture	Lab	Contact Hours
1	1	0	15

Prerequisite: Instructor Approved

Student Learning Outcomes:

1. Understand and identify basic functions of various departmental areas necessary to successfully operate and manage a venue.
2. Understand the role of a tour manager, production manager, & road manager and why each role is critical to the success of every tour.
3. Plan an event from scratch, and manage it as the event promoter.
4. Conduct an in depth analysis of your production after the event has ended.

Course Number and Name: **LVT 2332 Live Entertainment Production Project**

Description: This course provides a capstone experience for the entertainment professional. Topics include planning, preparing, and developing a specific entertainment project, including selecting materials, setting up and monitoring budget, and overseeing a complete project. Upon completion, students should be able to create an entertainment project such as a compact disc, project portfolio, or a full concert performance.

Hour Breakdown:

Semester Credit Hours	Lecture	Lab	Contact Hours
2	1	2	45

Prerequisite: Instructor Approved

Student Learning Outcomes:

1. Plan a tour and select the appropriate equipment required to execute the tour.[ProTools110 2.1]
2. Read and translate what is on the stage plot, to the stage.
3. Understand how to properly setup front of house and monitor world from scratch.
4. Understand how to properly power and hang all lighting fixtures.
5. Run and operate a live performance.
6. Demonstrate proper removal of all equipment and load-out a performance after completion.

National Standard

ProTools 110 2.1

Course Number and Name: **LVT 2343 Mixing Techniques**

Description: This course explores the use of audio processors and mixers to shape high-quality mixes, building on the students' gear knowledge and listening skills. Upon completion, students will demonstrate principles of blend, contrast, space, and dynamics to build listener interest.

Hour Breakdown:

Semester Credit Hours	Lecture	Lab	Contact Hours
3	1	4	75

Prerequisite: Instructor Approved

Student Learning Outcomes:

1. Expand their mixing and mastering techniques previously learned to an advanced level of production. *ProTools110 2.1, ProTools110 2.5, ProTools110 2.8, ProTools110 2.9*
2. Shape high quality, highly produced tracks. *ProTools110 2.6, ProTools110 2.10*
3. Have an advanced understanding of how to navigate through Pro-Tools. *ProTools110 2.2, ProTools110 2.3, ProTools110 2.4, ProTools110 2.7*
4. Produce 5 different genres of music and understand the differences in each.

National Standard

ProTools101 2.1
ProTools110 2.2
ProTools110 2.3
ProTools110 2.4
ProTools110 2.5
ProTools110 2.6
ProTools110 2.7
ProTools110 2.8
ProTools110 2.9
ProTools110 2.10

Course Number and Name: **LVT 2353 Live Broadcast Production**

Description: This course focuses on the technical fundamentals of audio, video, and communications systems needed for the production of live broadcast events. Areas of study include intercom-communications systems, radio frequency (RF) systems and coordination, broadcast systems signal flow, and record/playback systems. Additionally, microphone and camera types and proper operation and techniques will be examined. Upon completion, students will establish appropriate technical connections and produce a live broadcast event that includes audio, video, and communication elements.

Hour Breakdown:

Semester Credit Hours	Lecture	Lab	Contact Hours
3	1	4	75

Prerequisite: Instructor Approved

Student Learning Outcomes:

1. Understand the history of communication devices from past to present.
2. Understand how technology has changed the entertainment & broadcast industry.
3. Understand how to produce a live stream. ProTools 110 2.1, 2.10
4. Understand how to direct a podcast. ProTools 110 2.1, 2.10
5. Learn how to distribute your podcast to the world.

National Standard

ProTools 110 2.1
ProTools 110 2.10

Course Number and Name: **LVT 2363 Acoustics**

Description: This course covers the principles and basic concepts of acoustics in sound recording and reinforcement. Topics include various acoustical properties, waveforms, resonances, frequencies, and responses and real-life applications in recording studios and live performance facilities. Upon completion, students should be able to describe basic acoustical properties and concepts and apply them in sound productions in studios and live performance facilities.

Hour Breakdown:

Semester Credit Hours	Lecture	Lab	Contact Hours
3	2	2	60

Prerequisite: Instructor Approved

Student Learning Outcomes:

1. Understand sound waves and how sound travels through air. ProTools 101 1.2
2. Understand resonance frequencies. ProTools 101 1.2
3. Understand how reverb was created; past and present.
4. Demonstrate knowledge of dynamics and pitch.
5. Demonstrate how to properly pressure treat a room; home remedy & professionally.

National Standard

ProTools 101 1.2

Course Number and Name: **LVT 2373** **Concert Lighting II**

Description: This course is a continuation of Concert Lighting I and introduces more advanced concert lighting operations. Topics include advanced lighting concepts, lighting plot reading, followspot theory and operation, computerized control consoles, and large-scale mobile lighting systems. Upon completion, students should be able to construct complex lighting rigs from plots, operate followspots and program/operate computerized control consoles.

Hour Breakdown:

Semester Credit Hours	Lecture	Lab	Contact Hours
3	2	2	60

Prerequisite: Instructor Approved

Student Learning Outcomes:

1. Demonstrate how to program digital lighting consoles.
2. Understand the differences in the major brand lighting consoles.
3. Create a lighting plot.
4. Demonstrate knowledge of how to operate a dimmer system.
5. Understand 120K vs 60K conventional lighting system.

Course Number and Name: **LVT 2383** **Automated Lighting**

Description: This course is a continuation of Concert Lighting II and introduces the student to moving-light and large-scale concert lighting operations. Topics include an overview of moving-light instruments, their operation, and their programming, offering hands-on training on large-scale lighting rigs. Upon completion, students should be able to identify different moving-light instruments, operate and program moving-lights, construct and operate large-scale lighting rigs, and build a lighting sequence to accompany a music sequence.

Hour Breakdown:

Semester Credit Hours	Lecture	Lab	Contact Hours
3	2	2	60

Prerequisite: Instructor Approved

Student Learning Outcomes:

1. Understand how to operate moving lightings with advanced programing techniques.
2. Demonstrate proficieny in MagicVis, and other industry standard visualizer softwares.
3. Understand pallets & profiles for moving lights.
4. Program a time coded show with moving lights on a digital lighting console.

Course Number and Name: **LVT 2393 Multimedia Production**

Description: This course introduces students to the rapidly growing field of audio and visual technologies for the live-production field. This course is dedicated to building confidence in the area of multimedia-conference meetings and corporate-presentation skills. The course familiarizes students with basic audio, lighting, and video technology used by today's audiovisual (A/V) event technician. Areas of study include breakout-room setups, video display systems, intercom communications, video-switching procedures, lighting for video, camera operation. Upon completion, students will apply these skills in lab while setting up a simulated corporate multimedia event.

Hour Breakdown:

Semester Credit Hours	Lecture	Lab	Contact Hours
3	1	4	75

Prerequisite: Instructor Approved

Student Learning Outcomes:

1. Understand networking a programming in audio/video networking.
2. Introduction to Final Cut Pro.
3. Make a short film; edit and master.
4. Set up a projector and screen.
5. Hang a projector and screen.
6. Describe the difference between specific A/V cables versus cables used for concert lighting and concert sound.[ProTools110 1.2]

National Standard

ProTools 110 1.2

Course Number and Name: **WBL 191(1-3), WBL 192(1-3), WBL 193(1-3), WBL 291(1-3), WBL 292(1-3), and WBL 293(1-3)** **Work-Based Learning I, II, III, IV, V, and VI**

Description: A structured work-site learning experience in which the student, program area teacher, Work-Based Learning Coordinator, and worksite supervisor/mentor develop and implement an educational training agreement. Designed to integrate the student's academic and technical skills into a work environment. Includes regular meetings and seminars with school personnel for supplemental instruction and progress reviews. (1-3 sch: 3-9 hours externship)

Hour Breakdown:

Semester Credit Hours	Lecture	Lab	Contact Hours
4	2	4	90

Prerequisite: Instructor approved

Student Learning Outcomes:

1. Apply technical skills and related academic knowledge needed to be a viable member of the workforce

    a. Apply technical skills needed to be a viable member of the workforce

    b. Apply skills developed in other related courses in a work-based setting

    c. Perform tasks detailed in an educational training agreement at the work setting

2. Apply general workplace skills to include positive work habits and responsibilities necessary for successful employment

    a. Demonstrate pro-active human relationship skills in the work setting to include conflict resolution, team participation, leadership, negotiation, and customer/client service

    b. Demonstrate time, materials, and resource management skills

    c. Demonstrate critical thinking skills such as problem solving, decision making, and reasoning

    d. Demonstrate acquiring, evaluating, organizing, maintaining, interpreting, and communicating information.

    e. Demonstrate positive work habits and acceptance of responsibilities necessary for successful employment.

APPENDIX A: RECOMMENDED TOOLS AND EQUIPMENT

Capitalized Items

1. Macbook Pro 13 inch
    - Apple M1 chip with 8-core GPU, and 16-core Neural Engine
    - 8 gigs unified memory
    - 512GB SSD Storage
2. Audient ASP4816 Mixer with two (2) S1's
3. 4 TB Hard drive - Thunderbolt connectivity Alternate Hard
4. Audio Apollo 16 Thunderbolt Recording Interface
5. MD 421 II Sennheiser Mic
6. AKG C414 AKG Mic
7. Shure SM57
8. Shure Beta 57A
9. Rode Procaster Dynamic Microphone; requested wind screen
10. RE20 EV Mic
11. Rode NT1-A
12. P84SK Peluso Mic
13. P87 Peluso Mic
14. D112 MKII AKG Mic
15. L22 Townsend Labs Mic
16. MIX320-A Aviom Monitor System
17. HD280 Sennheiser Headphones for use with monitoring system
18. EL8X Empirical Labs Distressor
19. 1176-KT Klark Technik Compressor
20. Sound Construction R16-2 SLMP Rack
21. DMS7E Drum Mic Stand
22. PB21XEB Studio Equipment 8
23. PB11XEB

*Other equipment items can be added when deemed appropriate by the community college industry craft committee or by industry/business training requirements.

Non-Capitalized Items

SOFTWARE

1. Microsoft Office Suite – Word, Access, Excel, PowerPoint, VISIO

*Other equipment items can be added when deemed appropriate by the community college industry craft committee or by industry/business training requirements.

APPENDIX B: CURRICULUM DEFINITIONS AND TERMS

Course Name – A common name that will be used by all community colleges in reporting students

Course Abbreviation – A common abbreviation that will be used by all community and junior colleges in reporting students

Classification – Courses may be classified as the following:

a. Career Certificate Required Course – A required course for all students completing a career certificate.
b. Technical Certificate Required Course – A required course for all students completing a technical certificate.
c. Technical Elective – Elective courses that are available for colleges to offer to students.

Description – A short narrative that includes the major purpose(s) of the

Prerequisites – A listing of any courses that must be taken prior to or on enrollment in the course

Corequisites – A listing of courses that may be taken while enrolled in the course

Student Learning Outcomes – A listing of the student outcomes (major concepts and performances) that will enable students to demonstrate mastery of these competencies

The following guidelines were used in developing the program(s) in this document and should be considered in compiling and revising course syllabi and daily lesson plans at the local level:
The content of the courses in this document reflects approximately 75% of the time allocated to each course. The remaining 25% of each course should be developed at the local district level and may reflect the following:

Additional competencies and objectives within the course related to topics not found in the state framework, including activities related to specific needs of industries in the community college district
Activities that develop a higher level of mastery on the existing competencies and suggested objectives
Activities and instruction related to new technologies and concepts that were not prevalent at the time the current framework was developed or revised
Activities that include integration of academic and career–technical skills and course work, school-to-work transition activities, and articulation of secondary and postsecondary career–technical programs
Individualized learning activities, including work-site learning activities, to better prepare individuals in the courses for their chosen occupational areas.

Sequencing of the course within a program is left to the discretion of the local college. Naturally, foundation courses related to topics such as safety, tool and equipment usage, and other fundamental skills should be taught first. Other courses related to specific skill areas and related academics, however, may be sequenced to take advantage of seasonal and climatic conditions, resources located outside of the school, and other factors. Programs that offer an Associate of Applied Science Degree must include all of the required Career Certificate courses, Technical Certificate courses **AND** a minimum of 15 semester hours of General Education Core Courses. The courses in the General Education Core may be spaced out over the entire length of the program so that students complete some academic

and Career Technical courses each semester. Each community college specifies the actual courses that are required to meet the General Education Core Requirements for the Associate of Applied Science Degree at their college.

In order to provide flexibility within the districts, individual courses within a framework may be customized by doing the following: Adding new student learning outcomes to complement the existing competencies and suggested objectives in the program framework.

Revising or extending the student learning outcomes

Adjusting the semester credit hours of a course to be up 1 hour or down 1 hour (after informing the Mississippi Community College Board [MCCB] of the change)

APPENDIX C: COURSE CROSSWALK

Course Crosswalk (CIP: 10.0299- Live Entertainment Technology)		
Note: Courses that have been added in the 2021 curriculum are listed below.		
Course Number	Course Name	Credit Hours
LVT 1012	Introduction to Live Entertainment	2
LVT 1114	Audio Principles	4
LVT 1123	Live Sound Production I	3
LVT 1133	Concert Lighting I	3
LVT 1211	Critical Listening I	1
LVT 1223	Live Sound Production II	3
LVT 1233	Entertainment Law	3
LVT 1243	Sequencing for Music Production	3
LVT 1253	Recording Engineering I	3
LVT 2132	Entertainment Promotion	2
LVT 2273	Basic Electricity for Live Entertainment	3
LVT 2313	Equipment Maintenance	3
LVT 2321	Live Production/Entertainment Management	1
LVT 2332	Live Entertainment Production Project	2
LVT 2343	Mixing Techniques	3
LVT 2353	Live Broadcast Production	3
LVT 2363	Acoustics	3
LVT 2373	Concert Lighting II	3
LVT 2383	Automated Lighting	3
LVT 2393	Multimedia Production	3

APPENDIX D: RECOMMENDED TEXTBOOK LIST

Recommended Textbook List CIP: 10.0299- Live Entertainment Technology		
Book Title	**Author(s)**	**ISBN**
An Introduction to the Entertainment Industry	Stein, Andi; Bingham Georges, Beth	ISBN-13: 978-1433155499 ISBN-10: 1433155494
Electricity for the Entertainment Electrician & Technician	Cadena, Richard	ISBN 9780429285370
Stage Lighting	Dunham, Richard	ISBN 9781315454696
Principles of Digital Studio	Pohlmann, Ken	ISBN10: 0071663460 ISBN13: 9780071663465
The Ultimate Live Sound Operator's Handbook (Music Pro Guides)	Gibson, Bill	ISBN 978-1-5381-3317-0 ISBN 978-1-5381-3465-8
Audio Production and Critical Listening: Technical Ear Training	Corey, Jason	ISBN 9781138845947
This Business of Concert Promotion and Touring: A Practical Guide to Creating, Selling, Organizing, and Staging Concerts	Waddell, Ray D.; Barnet, Rich; Berry, Jake	ISBN-10 0823076873