

Syllabus for
MUS 160 —Live Sound
3.0 Credit Hours
Spring 2024

I. COURSE DESCRIPTION

A study of the basics of Live Audio, including the fundamental skills necessary to work in the live sound and production industry. Lectures are supported by practical hands-on application.

Prerequisites: MUS 105 or equivalent.

Lab Use Fee: \$55

II. COURSE GOALS

Student goals include demonstration of understanding the basic concepts of sound, how to set up a sound system, the ability to operate a digital console, and how to plan and prepare for a live performance.

III. STUDENT LEARNING OUTCOMES FOR THIS COURSE

After completing this course successfully, students will be able to:

- A. Discuss how the various components and equipment are used in live sound production.
- B. Identify fundamental terminology and concepts of sound reinforcement.
- C. Discuss and explain fundamentals of proper setup for a sound system.
- D. Demonstrate the successful management of a live sound system.

IV. ASSOCIATED PROGRAMS

This course meets degree completion requirements for the following program

- A. Music Production
 - a. To set up, mix and teardown a sound system for a live show.
 - b. To understand the basic terminology to communicate with artists and supply their audio needs.
 - c. To understand and troubleshoot audio issues.
 - d. To maintain and repair audio cables
- B. Worship Arts
 - a. To set up, mix and teardown a sound system for a worship service.
 - a. To understand the basic terminology to communicate with the worship team and supply their audio needs.
 - b. To understand and troubleshoot audio issues.
 - c. To maintain and repair audio cables

V. UNIVERSITY OUTCOMES

This course aligns with the following University Outcomes as indicated on the last page

- A. Spiritual Integrity
- B. Personal Resilience
- C. Intellectual Pursuit
- D. Global Engagement
- E. Bold Vision

VI. TEXTBOOKS AND OTHER LEARNING RESOURCES

- A. Required Materials

Textbooks

Modern Recording Techniques by David Miles Huber, 10th Edition

The Recording Engineer's Handbook By Bobby Owsinski

Mac book

Logic Pro
Video recording equipment for projects

VII. POLICIES AND PROCEDURES

- A. Department Policies and Procedures
School and/or Department Policies and Procedures Policies and procedures are in the Music Handbook.
- B. Course Policies and Procedures
1. Evaluation Procedures
 - Participation and Attendance 20%
 - Quizzes 20%
 - Concerts setup 20%
 - Mid-terms 20%
 - Finals 20%
 2. Whole Person Assessment Requirements
See Handbook
 3. Other Policies and/or Procedures
Attendance: Students are required to attend all events and classes.
Students more than two minutes late to class will be counted as absent.
Participation: Students are required to participate at all events and classes
All students are required to attend the Music Production, Jazz Combo and Worship lab performances held on campus. This is a part of their attendance grade.

VI. COURSE CALENDAR

Students will be asked to help and run live sound for different university events outside of class. These events are for a participation and concert setup grade. Students that are two minutes late or more will be counted absent from class or events.

No make-up mid-terms or finals will be given. If a student misses these, they will receive a zero for the assignment.

Week 1

Discuss/Demonstrate basic terminology, Audio Signals, EQ, EQ filters, EQ Controls, Graphic EQ, Compression, Gates, Speaker Cable, Unbalanced Signal, Balanced Signal, XLR to TRS, Levels of Audio, Gain Structure, Job duties, and responsibilities of a Live Sound Engineer. Go over the concert schedule for dates the class will set up sound equipment and running sound for.

Assignments:

Week 1 Quiz A and B
Week 1 Project

Week 2

Discuss/Demonstrate Feedback, EQ for Feedback, Directional Patterns, Transient, Gates, De-Esser, Limiting, Expander, and FX. Go over the concert schedule for dates the class will set up sound equipment and running sound for.

Assignments:

Week 2 Quiz A and B
Week 2 Project

Week 3

Discuss/Demonstrate Radio Communications, Radio Frequencies, CB Radio, Ham/amateur Radio, GMRS Radio, Wireless Systems, Radio Waves Properties, Frequency Allocations, Radio Frequency Range, VHF, and UHF. Go over the concert schedule for dates the class will set up sound equipment and running sound for.

Assignments:

Week 3 Quiz A and B
Week 3 Project

Week 4

Discuss/Demonstrate Soundboards, Encoder, Online Platform, Video Switcher, Latency, Waves Servers, CAT5 - CAT6, Setting up Clicks and Tracks, continue Ham/amateur Radio and review for license.

Assignments:

Week 4 Quiz A and B
Week 4 Project

Week 5

Discuss/Demonstrate High-frequency drivers, Woofer, Subwoofer, Subwoofer Array, Cardioid Array, Speaker Dispersion, Phase Plug, Endfire, and Types of Speaker Crossover: Passive and Active

Assignments:

Week 5 Quiz A and B
Week 5 Project

Week 6

Discuss/Demonstrate Mixing board, system setup, and routing assignments. Review for Mid-Term. Prepare for Concert

Assignments:

Week 6 Quiz A and B
Week 6 Project
Flip Classroom Presentation

Week 7

Review for Midterm
Midterm Exam.

Week 8

Discuss/Demonstrate Power Distribution, DC and AC Current, Camlock Connectors, Circuit Amperage.

Assignments:

Week 8 Quiz A and B
Week 8 Project

Week 9

Discuss/Demonstrate the PA system setup. Signal flow, stage setup, mixing a live band.
Discuss/Demonstrate how to mic a live band (how to mic the Jazz concert), guitar, bass, keys, horns, drums, singer, monitor for the singer

Assignments:

Week 9 Quiz A and B

Week 9 Project

Week 10

Flip Classroom, Students will demonstrate how to run sound equipment for a concert. Students will demonstrate how to run the soundboard, mic the band, and set up cables and speakers.

Assignments:

Week 10 Quiz A and B

Week 10 Project

Week 11

Prepare for Concert

Discuss/Demonstrate System calibration, white noise, pink noise, and tuning rooms.

Assignments:

Week 11 Quiz A and B

Week 11 Project

Flip Classroom Presentation

Week 12

Prepare for Concert

Discuss/Demonstrate Amplifiers, speakers, and related components. Basic maintenance and repair

Assignments:

Week 12 Quiz A and B

Week 12 Project

Flip Classroom presentation

Week 13

Assignments:

Flip Classroom presentation

Week 14

Review and preparation for Final Exam

Week 15

Final Exam.

Program Outcome Alignment: MUSIC PRODUCTION

This program contributes to the University outcomes as indicated below:

Significant Contribution – Addresses the outcome directly and includes targeted assessment.

Moderate Contribution – Addresses the outcome directly or indirectly and includes some assessment.

Minimal Contribution – Addresses the outcome indirectly and includes little or no assessment.

No Contribution – Does not address the outcome.

Program Outcome alignment with University Outcomes		Significant	Moderate	Minimal	None
Spiritual Integrity					
Outcome 1	Students will apply a Biblical and Christian Worldview when creating, performing, teaching, worshiping, and analyzing a variety of styles of music.	X			
Personal Resilience					
Outcome 2	Students will demonstrate active engagement and self-motivation in the preparation for recitals, classroom teaching, worship sets, research, audio projects, and presentations in music.	X			
Intellectual Pursuit					
Outcome 3 NASM 8.B.2.a-b	Students will develop the technical performance skills for artistic expression in at least one major performance area at a level appropriate for the major or concentration.		X		
Outcome 4 NASM 8.B.1.c	Students will develop ability to ready at sight with fluency in their major performance area relevant to professional standards for the music program.			X	
Outcome 5 NASM 8.B.2.a	Students will develop aural skills to identify intervals, melodic structures, chord qualities, and harmonic progressions.		X		
Outcome 6 NASM 8.B.2.a	Students will demonstrate an understanding of the theory, harmonic progressions, and forms of a variety of styles of music when studying, listening, performing, and teaching music.		X		
Outcome 7 NASM 8.B.4	Students will acquire and develop the basic knowledge of music history and repertoire through the present time for a variety Western music cultures and styles.		X		
Outcome 10	Students will record and engineer a final mix of a musical composition or arrangement for distribution or presentation.	X			
Global Engagement					
Outcome 8	Students will engage and analyze music from a wide variety of musical periods including Western and non-Western musical traditions (and worship).		X		
Bold Vision					
Outcome 9 NASM 8.B.1.f	Students will demonstrate vision, leadership, and artistry in performance or planning through expression in phrasing, dynamics, articulations, and accepted practice for musical works in a variety of settings including the stage, classroom, therapeutic settings, and worship services.	X			

