

MUSI 3243 - Music Technology

Fall 2026 Syllabus

Instructor of Record: Jason Zedlitz

Office: FAC 2212

Office Hours: Mon-Fri, 1:00-4:00 PM, or by appointment

Email: jzedlitz@uttyler.edu

Phone: 903-565-5817

Class Meeting: Thursday 10:05 AM / 11:55AM

Location: FAC 1221

LAB: FAC 2018

Course Overview

MUSI 3243 is a hands-on, project-based introduction to music technology. Students learn by building audio systems, recording real sources, solving technical problems, working in Logic Pro, and applying production concepts in studio and live-sound environments. The course emphasizes signal flow, gain structure, microphone selection and placement, digital audio, recording, editing, equalization, dynamics processing, routing, effects, automation, acoustics, monitoring, live sound, and final audio delivery.

Course philosophy: students should touch equipment, build something, record something, or solve a technical problem during every class meeting.

Student Learning Outcomes

1. Trace, construct, and troubleshoot analog and digital audio signal paths.
2. Establish appropriate gain structure throughout recording and live-sound systems.
3. Identify and safely use common audio cables, connectors, microphones, interfaces, mixers, processors, and monitoring equipment.
4. Select and position microphones according to source, environment, polar pattern, and intended application.
5. Explain foundational digital-audio concepts including sample rate, bit depth, file formats, mono/stereo audio, and analog-to-digital conversion.
6. Create, organize, record, edit, mix, and export audio projects using Logic Pro.
7. Apply equalization, compression, limiting, routing, effects, and automation intentionally.
8. Evaluate basic acoustic characteristics of recording and listening environments.
9. Configure and operate a basic live-sound reinforcement system.
10. Identify and correct common recording, routing, monitoring, and live-sound problems.
11. Explain technical and creative production decisions using appropriate audio terminology.
12. Produce and present a completed multitrack audio project demonstrating technical, creative, and professional skills.

Course Format

This course meets in a two-hour laboratory format. A typical class meeting will include:

Approx. Time	Class Activity
0:00-0:10	Opening, review, equipment/workstation check
0:10-0:30	Focused instruction and listening examples
0:30-0:45	Instructor demonstration
0:45-1:35	Guided lab or project work
1:35-1:50	Testing, critique, troubleshooting, or skills check
1:50-2:00	File submission, equipment reset, and cleanup

Required Materials and Technology

- Canvas and university email access.
- Logic Pro on university-provided or instructor-approved hardware.
- Headphones suitable for critical listening.
- External storage device or approved cloud-storage location for backups.
- Notebook or digital method for technical notes and production documentation.
- Course files and media provided through Canvas.

Microphones, cables, audio interfaces, mixers, loudspeakers, and other production equipment will be provided for supervised laboratory activities.

Grading Breakdown

Course Component	Weight
Weekly Hands-On Labs and Skills Checks	20%
Project 1 - Signal-Chain Challenge	10%
Project 2 - Microphone Comparison and Placement Study	10%
Project 3 - Edited Performance Project	10%
Project 4 - Repair and Enhance a Recording	10%
Project 5 - Live-Sound Setup Challenge	15%
Final Production Project	25%
Total	100%

Grading Scale

Grade	Percentage
A	90-100%
B	80-89%
C	70-79%
D	60-69%
F	Below 60%

Major Projects

Project 1 - Signal-Chain Challenge

Students construct, test, document, and troubleshoot a complete audio signal path. Deliverables include a working system, short recording, labeled signal-flow diagram, and response to an instructor-created fault.

Project 2 - Microphone Comparison and Placement Study

Students record an approved source using multiple microphones and/or placements, then compare tonal response, room contribution, proximity effect, and application. Organized Logic sessions and technical observations are required.

Project 3 - Edited Performance Project

Students record or receive multiple takes and build a polished final performance using comping, cuts, fades, crossfades, noise control, and professional session organization.

Project 4 - Repair and Enhance a Recording

Students diagnose and improve a flawed recording using gain staging, editing, EQ, compression, routing, and appropriate effects. Before-and-after audio and an explanation of decisions are submitted.

Project 5 - Live-Sound Setup Challenge

Teams plan and build a small live-sound system, create main and monitor mixes, demonstrate safe gain structure and cable management, and troubleshoot an instructor-created problem. Each student also completes an individual skills check.

Final Production Project

Students complete and present an instructor-approved multitrack production demonstrating planning, signal flow, recording or source management, editing, EQ, compression, panning, routing, time-based effects, automation, export, documentation, and reflection.

Major Project Rubric

Category	Weight	What It Measures
Technical Execution	35%	Setup, routing, levels, gain structure, software/equipment use, required technical elements
Audio Quality	25%	Clarity, balance, editing quality, noise control, processing, effectiveness
Organization & Documentation	15%	File naming, track organization, session structure, signal-flow documentation, complete submission
Troubleshooting & Problem Solving	15%	Problem identification, logical process, independence, correction, explanation
Professional Practice	10%	Preparation, time management, collaboration, equipment care,

Category	Weight	What It Measures
		communication, cleanup

Policies and Professional Expectations

Attendance and Participation

Attendance is essential in a hands-on laboratory course. Many activities require specialized equipment, instructor supervision, student partners, live demonstrations, recording sessions, and skills checks. Some experiences cannot be reproduced through notes, slides, or independent reading.

Students are expected to arrive on time, participate throughout the class meeting, communicate absences promptly, review missed material, and complete available make-up work. University-approved absences will be handled according to university policy.

Tardiness and Early Departure

Students who arrive after an equipment or safety demonstration must check with the instructor before beginning laboratory work. Repeated tardiness or early departure may affect participation, professional-practice, or laboratory grades.

Late Work

- Late work may receive a deduction of 10% of the assignment total per calendar day unless otherwise stated.
- Work more than seven calendar days late may not be accepted without prior instructor approval.
- Students facing a documented emergency or significant circumstance should communicate with the instructor as early as reasonably possible.
- End-of-semester work cannot be accepted after the university grading deadline.

Make-Up Work and Skills Checks

Because many assessments involve equipment operation or live demonstration, make-up work must be scheduled with the instructor. A make-up activity may differ from the original assignment but will assess the same learning outcome. Equipment access outside scheduled class time is not guaranteed.

Revision and Resubmission

Selected projects may be revised and resubmitted when permitted by the instructor. Revision opportunities are intended to support skill development and may require a conference, written revision plan, or resubmission by a stated deadline.

File Management and Backups

- Create a dedicated folder for each project and use descriptive file and track names.
- Save frequently and maintain at least one backup copy.
- Confirm that all required audio files are stored with the project before submission.
- Keep submitted projects until final grades have been posted.
- Loss of work caused by failure to save, organize, or back up files may not qualify for an extension.

Equipment Use and Laboratory Safety

- Handle microphones, cables, stands, interfaces, and other equipment carefully.
- Lower monitor/output levels before making or changing connections.
- Verify phantom-power requirements before activation.
- Keep cables organized and away from walking paths.

- Use appropriate monitoring levels and hearing protection when necessary.
- Report damaged or malfunctioning equipment immediately.
- Return equipment to the correct storage location and reset workstations after use.
- Food and uncovered drinks are not permitted near audio equipment.

Hearing Safety

Audio work can expose students to potentially harmful sound levels. Students should monitor at moderate levels, take listening breaks, avoid prolonged exposure to high sound-pressure levels, and notify the instructor when a system appears excessively loud. Hearing protection is a professional responsibility.

Professional Conduct and Collaboration

Music and audio production frequently require collaboration. Students are expected to communicate respectfully, arrive prepared, contribute to assigned responsibilities, care for equipment, use class time productively, and provide constructive peer feedback. Unless an assignment is specifically designated as a group project, each student must independently demonstrate the required skills and clearly identify collaborators and their roles.

Use of Artificial Intelligence

Artificial-intelligence tools may be used when permitted for a specific assignment. Appropriate uses may include brainstorming project concepts, organizing production notes, reviewing terminology, or generating practice questions. AI tools may not replace required recording, editing, mixing, signal routing, equipment operation, troubleshooting, listening analysis, technical demonstration, or personal reflection. Students must disclose AI assistance when required by the assignment instructions.

Academic Integrity

Students are expected to complete their work honestly and acknowledge collaborators, source materials, samples, loops, and outside assistance when required. Submitting another person's Logic session, recording, editing, mix, documentation, or technical work as one's own may constitute academic misconduct. University academic-integrity policies apply to all course activities and assignments.

Copyright, Samples, and Recorded Performances

Students are responsible for using audio and media materials appropriately. Permission should be obtained before publicly using copyrighted recordings, restricted samples, or recorded performances belonging to others. Course materials provided for educational use should not be distributed outside the course without permission.

Communication and Canvas

Canvas and university email are the primary communication methods for this course. Students should check Canvas regularly, enable notifications, review current assignment instructions and due dates, and monitor university email. Course-specific questions involving Logic Pro, audio routing, equipment use, or project requirements should be directed to the instructor.

Course Schedule - Fall 2026

The sequence below is planned for a two-hour weekly laboratory meeting. Dates may be adjusted based on the official academic calendar, equipment availability, university closures, performances, or student progress. Changes will be communicated in Canvas.

Week 1 - Introduction to Music Technology

Topics: Course orientation; lab expectations; safety; equipment identification; cables/connectors; basic signal flow; first Logic Pro session.

Hands-On Focus: Build a basic microphone-to-Logic signal chain; record and export a short introduction.

Assignment / Evidence: Equipment checklist, Logic session, short recording, basic signal-flow diagram.

Week 2 - Signal Flow and Gain Structure

Topics: Source-to-output routing; mic vs. line level; preamp gain; metering; headroom; clipping; signal-to-noise ratio.

Hands-On Focus: Record low-gain, clipped, and correctly staged examples; troubleshoot an instructor-created fault.

Assignment / Evidence: Project 1 begins.

Week 3 - Signal-Chain Challenge

Topics: System planning; connection order; power sequencing; signal testing; troubleshooting methods.

Hands-On Focus: Build a complete system; establish gain structure; draw signal flow; diagnose an introduced fault.

Assignment / Evidence: Project 1 due.

Week 4 - Microphone Types and Polar Patterns

Topics: Dynamic, condenser, and ribbon microphones; phantom power; sensitivity; frequency response; cardioid, omni, figure-eight.

Hands-On Focus: Compare microphones; demonstrate polar patterns; record on/off-axis examples; microphone selection scenarios.

Assignment / Evidence: Microphone comparison lab.

Week 5 - Microphone Placement and Phase

Topics: Close/distant placement; direct vs. reflected sound; proximity effect; bleed; phase; polarity; comb filtering; 3:1 guideline.

Hands-On Focus: Record one source from multiple positions; combine microphone signals; identify phase-related changes.

Assignment / Evidence: Project 2 begins.

Week 6 - Digital Audio and Logic Pro Workflow

Topics: A/D conversion; sample rate; bit depth; file formats; mono/stereo; project setup; track organization; editing; export.

Hands-On Focus: Create an organized project template; practice cuts, trims, fades, crossfades, and WAV/MP3 export.

Assignment / Evidence: Project 2 due.

Week 7 - Recording, Comping, and Editing

Topics: Session preparation; multiple takes; cycle/punch recording; take folders; comping; editing continuity.

Hands-On Focus: Partner recording session; build a composite performance; apply fades and cleanup.

Assignment / Evidence: Project 3 due/end of week.

Week 8 - Equalization and Frequency

Topics: Frequency ranges; fundamentals/harmonics; masking; filters; bell/shelf EQ; corrective vs. creative EQ.

Hands-On Focus: Frequency-recognition exercises; repair tonal problems; level-matched before/after comparisons.

Assignment / Evidence: EQ skills check.

Week 9 - Compression and Dynamics

Topics: Dynamic range; threshold; ratio; attack; release; knee; gain reduction; makeup gain; limiting.

Hands-On Focus: Compare compression settings; process voice/instruments/percussion; control inconsistent dynamics.

Assignment / Evidence: Project 4 begins.

Week 10 - Routing, Buses, Effects, and Automation

Topics: Inserts; sends; buses; auxes; subgroups; parallel processing; reverb/delay; pre/post fader; automation.

Hands-On Focus: Create shared effects, subgroup routing, parallel processing, and automation.

Assignment / Evidence: Project 4 due.

Week 11 - Acoustics, Monitoring, and Critical Listening

Topics: Reflection; absorption; diffusion; reverberation; standing waves; room modes; isolation vs. treatment; monitor placement.

Hands-On Focus: Record the same source in multiple spaces; compare rooms, headphones, monitors, and consumer playback.

Assignment / Evidence: Acoustics/monitoring lab.

Week 12 - Live-Sound Systems

Topics: Stage-to-FOH signal flow; console; mains; monitors; gain before feedback; power sequencing; system safety.

Hands-On Focus: Build a small PA; create main/monitor mixes; identify feedback risks; troubleshoot signal problems.

Assignment / Evidence: Project 5 begins.

Week 13 - Live-Sound Setup Challenge

Topics: Stage plots; input lists; equipment planning; team communication; system operation; troubleshooting.

Hands-On Focus: Plan, build, test, and troubleshoot a performance system; complete individual skills checks.

Assignment / Evidence: Project 5 due.

Week 14 - Final Production: Recording and Editing

Topics: Production planning; session setup; microphone/input planning; recording workflow; track organization; editing.

Hands-On Focus: Record or organize project materials; edit takes; apply fades; create markers; instructor check-ins.

Assignment / Evidence: Final project rough edit/progress check.

Week 15 - Final Production: Mixing and Peer Review

Topics: Static balance; panning; EQ; compression; routing; effects; automation; reference tracks; mix translation.

Hands-On Focus: Build/refine final mix; peer review; revise; test multiple playback systems; prepare presentation.

Assignment / Evidence: Final project in progress.

Finals - Final Project Presentation and Reflection

Topics: Cumulative demonstration of course learning.

Hands-On Focus: Present project purpose, technical process, troubleshooting, revisions, and final outcome.

Assignment / Evidence: Final WAV, listening copy, Logic project, documentation, reflection, rough/final comparison.

Important University Dates

First Day of Class: August 24th 2026

Census Date: September 8th 2026

Last Day to Withdraw: October 30th 2026

Final Examination: December 7th 2026

Students are responsible for reviewing the official UT Tyler academic calendar and Canvas for current deadlines.

University Policies and Student Resources

Current university policies and student-support resources will be available through the Syllabus section in Canvas. These materials may include academic integrity, accessibility and accommodations, Title IX, counseling, campus safety, technology support, military and veteran services, religious observance, emergency procedures, student conduct, and university closure procedures.

Accessibility and Accommodations

Students who require academic accommodations should contact the appropriate university accessibility office and provide the instructor with required documentation. Students are encouraged to begin this process early in the semester. Approved reasonable accommodations will be implemented while preserving the essential learning outcomes and safety requirements of the course.

Course Changes

The instructor may adjust topics, activities, project requirements, deadlines, or course sequencing when necessary because of equipment availability, university closures, weather, performance schedules, student progress, technology changes, facility access, or unforeseen circumstances. Changes will be communicated through Canvas and university email.