

AUD 132 - AUDIOTRONICS AND ACOUSTICS

Course Description

This course is designed to provide students with comprehensive, practical, and theoretical knowledge in various facets of audio technology. This collegiate-level course integrates hands-on training with theoretical instruction, focusing on essential skills such as soldering techniques, basic electronics principles, audio equipment maintenance and repair, and fundamentals of acoustics. Through a combination of lectures, demonstrations, laboratory exercises, and real-world projects, students will gain proficiency in audio equipment handling, troubleshooting, repair, and optimization. Group 2 course.

Credit Hours

2

Contact Hours

2

Lecture Hours

2

Required Prerequisites

AUD110

General Education Outcomes supported by this course

Communications - Direct, Critical Thinking - Direct, Quantitative Reasoning

Course Learning Outcomes

Knowledge:

- Identify and describe the components and functions of various audio equipment, including microphones, amplifiers, speakers, and mixers.
- Explain basic acoustic principles, such as sound wave behavior, frequency, amplitude, and room acoustics.
- Understand electrical concepts relevant to audio equipment, such as impedance, grounding, and signal flow.

Application:

- Perform routine maintenance on audio equipment, including cleaning, calibration, and troubleshooting common issues.
- Use measurement tools (e.g., SPL meters, RTA analyzers) to assess and optimize acoustic environments.
- Apply acoustic treatment techniques to improve sound quality in different spaces, such as studios, live venues, or theaters.

Integration:

- Integrate knowledge of equipment functions and acoustics to diagnose and solve complex audio quality issues in various environments.
- Collaborate with peers on practical projects, such as setting up and testing audio equipment for live events or studio recordings.
- Synthesize acoustic principles with technical skills to design and set up effective sound systems for different acoustic spaces.

Human Dimension:

- Recognize the importance of precision and attention to detail in maintaining audio equipment for high-quality sound production.
- Develop skills for effective teamwork by collaborating with others in equipment setup, maintenance, and troubleshooting tasks.
- Reflect on personal strengths and areas for growth in technical skills and apply this understanding to improve competence in equipment maintenance.

Caring - Civic Learning:

- Cultivate an appreciation for the role of equipment maintenance and acoustics in achieving optimal sound quality.
- Develop a commitment to safety and ethical practices in maintaining and handling audio equipment.
- Recognize the environmental impact of equipment manufacturing and disposal, fostering a sense of responsibility in choosing sustainable practices.

Learning How to Learn:

- Develop strategies for ongoing learning in emerging audio technologies, software, and maintenance techniques.
- Utilize manuals, tutorials, and professional resources to troubleshoot unfamiliar equipment or complex acoustic challenges.
- Practice iterative improvement by assessing past maintenance tasks and acoustic adjustments to refine skills and techniques over time.