

REC 103: INTRODUCTION TO AUDIO ENGINEERING

Citrus College Course Outline of Record

Heading	Value
Effective Term:	Spring 2021
Credits:	4
Total Contact Hours:	108
Lecture Hours :	54
Lab Hours:	54
Hours Arranged:	0
Outside of Class Hours:	108
Strongly Recommended:	ENGL 101.
Transferable to CSU:	Yes
Transferable to UC:	No
Grading Method:	Pass/No Pass

Catalog Course Description

This course is an introduction to the current technology, terminology and techniques used in audio engineering for recorded music, video and online media. Includes the history of audio, basic audio electronics, microphones, consoles, computer-based production systems and related signal processors. 54 lecture hours, 54 lab hours.

Course Objectives

- Describe benchmark developments (ie: Edison's phonograph, magnetic recording, the compact disc, etc.) in the history of audio technology.
- Analyze audio component interconnections and select the proper cables and connectors to complete them.
- Operate the audio components necessary for a simple recording session - including the microphone, mixer and recorder.
- Record dialog, sound effects and music for a short sound design assignment.
- Analyze a simple electronic schematic diagram (for a mixer, amplifier or microphone) and accurately trace the signal path in the circuit.
- Create a simple block diagram of the basic recording signal path, from the signal source (microphone or other transducer), through an amplifier (recording console or pre-amplifier), to the recorder (software-based or tape based recording system).
- Correctly identify common electronic components, such as resistors, op-amps and transformers, and describe their function in a circuit.
- Describe the fundamental steps in planning and conducting a recording session, including studio selection, set-up, mic placement, track assignment and documenting the session.

Major Course Content

1. Historical developments in audio recording technology
2. The audio signal path, from transducers to recorders
3. Introduction to electronics principles - audio circuits and components
4. Recording basics - studio hardware, cables and connectors
5. Microphone basics - anatomy, design and application
6. Digital/software-based recording systems - principles and operation

7. Introduction to the recording studio - set-up and protocols
8. Basic tracking, overdub and mixing techniques
9. Basic signal processing techniques

Lab Content

1. Signal path - wiring and connections
2. Electronics circuits - mounting components, soldering
3. Microphone pre-amplifier project – construction and testing
4. Basic microphone set-up and placement
5. Racking and mixing – basic projects
6. Introduction to signal processing: e.g., dynamics and effects.

Suggested Reading Other Than Required Textbook

Audio journals and magazines.

Examples of Required Writing Assignments

Multiple 2-6 page papers on industry status and issues, basic electronics, sonic analysis of a contemporary song, microphone techniques, signal processing techniques, and documentation of a live recording session.

Examples of Outside Assignments

Remote recording for sound design project. Construct an electronic audio component from a kit.

Instruction Type(s)

Lecture, Lab, Online Education Lecture, Online Education Lab