Digital Audio Technology I

Level 2: Student may have explored previously; first pathway specific course

Pathway(s): Digital Media & Communication;

Description

Digital Audio Technology I is designed to provide students interested in audio production careers such as audio for radio and television broadcasting, audio for video and film, audio for animation and game design, music production and live sound, and additional opportunities and skill sets. Digital Audio Technology I does not replace Audio/Video Production courses but is recommended as a single credit, co-curricular course with an audio production technical emphasis. This course can also be paired with Digital Media. Students will be expected to develop an understanding of the audio industry with a technical emphasis on production and critical-listening skills.

Student Learning Outcomes

Career and Postsecondary

1) Identify various career pathways and job opportunities in the audio production industry
   a. Recognize the work typically performed, tools and technology used, and nature of work environments
   b. Identify potential certifications within the careers
   c. Find membership organizations associated with the careers
   d. Understand the necessary education associated within the career opportunities
2) Understand the history, current practices, and future trends for audio production careers such as radio and television broadcasting, video and film, animation and game design, music production, and live sound
3) Describe how the changing technology is impacting the audio industry
4) Define and appropriately use terminology associated with the audio production industry
5) Identify postsecondary opportunities within Colorado
   a. Technical and community colleges, universities
   b. Certificates, associates, bachelors, and advanced degrees

Audio Production Equipment

6) Understand types and applications of microphones such as dynamic, condenser, ribbon pressure zone (PZM), universal serial bus (USB), and wireless
7) Understand pick-up patterns and applications of microphones such as cardioid, omnidirectional and figure eight
8) Understand the operation and application of audio consoles (mixers) such as broadcast consoles, live sound consoles, and recording consoles
9) Understand the operation and application of audio processing equipment or software such as equalizer (EQ), dynamic compressor, noise gate, band pass filters, reverb and delays
10) Understand the operation and application of analog and digital audio recording devises such as handheld recorders, USB interfaces, multi-track devises, and digital audio workstations (DAW)

11) Understand the application of audio interconnect cabling and connectors such as XLR balanced, TRS balanced, TS unbalanced, RCA, ¼" TRS/TS, and mini TRS/TS
12) Understand the operation and application of additional audio hardware such as musical instrument digital interface (MIDI) controllers, direct boxes, audio splitters, and analog to digital converters as needed
13) Understand the types and applications of audio speakers such as broadcast monitors, studio monitors, and live sound speakers

Audio Production Elements

14) Identify key elements (stems) of an audio production such as dialogue, sound effects, music, and environmental
15) Understand how music styles, sound effects, or vocal performances can create a specific emotional impact
16) Identify key technical elements of audio production for effect such as panning, ducking, track doubling, retiming, and auto-tune
17) Understand and identify digital audio codecs and compression standards such as Waveform Audio (WAV), MP3, and advanced audio coding (AAC)

Assets for Audio Production

18) Identify key elements required in audio scripts
19) Apply writing skills to develop an audio script
20) Create or obtain required audio assets through recording, synthesis, or permissions

Digital Audio Workstation and Audio Editing

21) Understand how to record or import various types of audio content such as audio files, MIDI data or automation
22) Understand types and applications of audio track such as instrument track, master track, auxiliary track, and global attributes track
23) Understand audio editing tools and transitions such as cut, trim, and fade
24) Understand the use and application of software plug-ins such as EQ, dynamic compression, reverb, and software instruments
25) Understand the use and application of software automation
26) Understand the various delivery formats such as disk, broadcast, cellular, portable device, electronic, and online delivery