



MUSIC AND AUDIO PRODUCTION 15.0307.00

TECHNICAL STANDARDS

An Industry Technical Standards Validation Committee developed and validated these standards on February 25, 2020. The Arizona Career and Technical Education Quality Commission, the validating authority for the Arizona Skills Standards Assessment System, endorsed these standards on July 13, 2020.

Note: Arizona's Professional Skills are taught as an integral part of the Music and Audio Production program.

The Technical Skills Assessment for Music and Audio Production is available SY2021-2022.

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STANDARD 1.0 ENGAGE IN PRE-PRODUCTION/PLANNING PHASE OF PRODUCT CREATION

- 1.1 Define the roles of composers, artists, performers, engineers, agents, managers, and producers
- 1.2 Define the processes of composition, practice, rehearsal, performance, tracking/capture, mixing, and mastering
- 1.3 Demonstrate a functional understanding of the fundamentals of sound and acoustic principles as they relate to the production of sound and its modification/control via electronic and acoustic manipulation
- 1.4 Design the operation and execution of industry standard audio production tasks for recording sessions that make use of analog and digital audio equipment and digital audio workstation (DAW) software (e.g., signal flow)
- 1.5 Design the operation and execution of industry standard audio production tasks for live performances and events that make use of analog and digital audio equipment (i.e., broadcast, live event, onsite, signal flow, etc.)
- 1.6 Demonstrate industry standard instrumental/vocal techniques in preparation for the creation, live performance, and recording of music
- 1.7 Demonstrate the appropriate selection and industry standard usage of musical instruments and related accessories in preparation for the creation, live performance, and recording of music, including setting up, tuning, plugging in, maintenance, and related skills
- 1.8 Demonstrate a functional understanding of the standard structural components of contemporary music styles/genres/arrangements including Verse, Chorus, and Bridge
- 1.9 Demonstrate a functional understanding of music theory concepts (i.e., melody, harmony, rhythm, dynamics, phrasing, instrumentation, analysis, etc.) in preparation for the creation, live performance, and recording of music

STANDARD 2.0 IMPLEMENT PLAN(S) FOR ACQUIRING OR CREATING A PRODUCT IN ACCORDANCE WITH PRODUCTION PHASE TASKS

- 2.1 Demonstrate industry standard usage of microphones (i.e., dynamic, condenser, tube, ribbon, etc.) for various sources and locations in live performance and recording studio applications
- 2.2 Demonstrate industry standard usage of amplifiers (e.g., pre, power, and instrument amplifiers) for various functions in live and recording applications
- 2.3 Demonstrate industry standard usage of audio production consoles (mix desks) in live and recording applications
- 2.4 Demonstrate industry standard usage of audio component interconnectivity and related signal flow for analog and digital audio recording and live systems
- 2.5 Use MIDI instruments, processes, and methods for sound production, synchronization, and data/control applications
- 2.6 Execute industry standard multi-track studio recording/capture, mixing, and monitoring techniques for music, Foley, and spoken word
- 2.7 Identify similarities in the processes for selecting, setting up, and using analog and digital audio equipment, including outboard gear and Digital Audio Workstations (DAWs), for live performance and recording studio applications
- 2.8 Implement the operation and execution of industry standard audio production tasks for recording sessions
- 2.9 Collaborate with other musicians to perform works of music for recording sessions
- 2.10 Create original works of music using acoustic, electric, electronic, MIDI, and software, instruments, and sources for the purpose of reaching specific audiences or fulfilling specific functions adhering to common audience/listener and industry standard commercial expectations in preparation for live performance and recording

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- 2.11 Outline industry standard creation and usage of lead sheets for original works of music in preparation for live performance and recording (i.e., standard musical notation, Nashville numbers, etc.)

STANDARD 3.0 PERFORM TASKS IN POST-PRODUCTION PHASE OF PRODUCT REFINEMENT

- 3.1 Demonstrate industry standard usage of audio signal processors, effects, and emulators (e.g., dynamic, timbre shaping, modulation, and ambient) for live event audio mixing (i.e., live sound venue, broadcast, onsite location recording, etc.)
- 3.2 Demonstrate industry standard usage of audio signal processors, effects, and emulators for recording studio audio mixing (e.g., dynamic, timbre shaping, modulation, and ambient)
- 3.3 Execute industry standard recording studio multi-track audio mixing techniques for material captured during live performances (i.e., live sound venue, broadcast, onsite location recording, etc.)
- 3.4 Execute industry standard recording studio multi-track audio mixing techniques for material captured during recording studio sessions
- 3.5 Execute industry standard audio mastering techniques for material captured during live performances (i.e., live sound venue, broadcast, onsite location recording, etc.)
- 3.6 Execute industry standard audio mastering techniques for material captured during recording sessions
- 3.7 Create multiple arrangements/versions of the same captured audio material using industry standard audio editing, mixing, mastering, and remixing techniques and procedures

STANDARD 4.0 MONITOR QUALITY ASSURANCE OF CONTENT CREATION CONCURRENT WITH ALL PHASES OF PRODUCTION

- 4.1 Critique fundamental recording and production techniques in terms of sound quality, commercial viability, and general musical effectiveness
- 4.2 Improve recording and production techniques using industry standard audio editing, mixing, mastering, and remixing techniques and procedures
- 4.3 Critique musical ideas in terms of commercial viability and general musical effectiveness
- 4.4 Improve musical ideas using industry standard audio editing, mixing, mastering, remixing, and music composition techniques and procedures

STANDARD 5.0 DELIVER/DISTRIBUTE PRODUCT(S) USING VARIOUS MEDIA IN ACCORDANCE WITH CONSUMER EXPECTATIONS

- 5.1 Identify industry standard and common digital audio recording formats and editing information
- 5.2 Compile/sequence complete, multi-track, audio albums to reflect consumer expectations and current commercial trends
- 5.3 Determine the digital audio recording formats appropriate for various forms of distribution
- 5.4 Create deliverables (i.e., mp3s, CDs, web-ready audio files, etc.)
- 5.5 Export deliverables for various industry standard applications (i.e., mp3s, CDs, web-ready audio files, etc.)
- 5.6 Import deliverables for various industry standard applications (i.e., mp3s, CDs, web-ready audio files, etc.)
- 5.7 Prepare content for streaming according to industry standard specifications

STANDARD 6.0 PRESENT PRODUCT(S) TO SELECTED LIVE AUDIENCE(S)

- 6.1 Outline industry standard design and usage of PA-system equipment and related accessories for live events, consisting of multi-track Front-Of-House, Monitor, and Recording desks
- 6.2 Execute audio production tasks for live music events, including Front-Of-House, Monitoring, and Recording desk operations
- 6.3 Demonstrate proper instrumental/vocal techniques for live performance
- 6.4 Demonstrate industry standard selection, application, and usage of audio signal processors and effects (e.g., dynamic, timbre shaping, modulation, and ambient) for live performance
- 6.5 Collaborate with other musicians to perform works of music for an audience

STANDARD 7.0 APPLY CONTENT CAPTURE

- 7.1 Identify software and hardware that supports content capture in respective environments (i.e., recording studio, post-production studio, live sound venue, broadcast, onsite location recording, etc.)
- 7.2 Select appropriate formats for music and audio content based on industry standards and expectations
- 7.3 Determine efficient methods for accessing, converting, editing, archiving, and distributing content (i.e., sharing between systems, contractors, clients, etc.)

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STANDARD 8.o UTILIZE COMPUTER AND PERSONAL ELECTRONIC DEVICE APPLICATIONS TO MANAGE MEDIA

- 8.1 Select appropriate software and hardware for specific tasks (i.e., pre-production, post-production, digital streaming, etc.)
- 8.2 Apply essential commands and knowledge of computer- and mobile-operating systems
- 8.3 Utilize digital file management techniques for organizing, archiving, and version control
- 8.4 Maintain equipment and related accessories
- 8.5 Explain methods of protecting computer and network systems against data loss and external threats (e.g., on-premise and in the cloud)

STANDARD 9.o DEMONSTRATE PRACTICES APPROPRIATE TO PERSONAL SUCCESS IN THE COMMUNICATION MEDIA TECHNOLOGIES INDUSTRY AS IT RELATES TO MUSIC AND AUDIO PRODUCTION

- 9.1 Apply formatting, editing, and proofreading skills to all forms of writing
- 9.2 Research deliverables using industry-specific terminology (i.e., presentation, project, portfolio, electronic press kit; résumé, etc.)
- 9.3 Present deliverables using industry-specific terminology (i.e., presentation, project, portfolio, electronic press kit; résumé, etc.)
- 9.4 Identify professional attire, (“dress for success”), standards and practices
- 9.5 Define a professional portfolio (e.g., résumé, organized collection of relevant writing, graphics, and projects; artifacts showcasing talents and relevant skills; and summary of professional growth)
- 9.6 Describe portfolio types serving different purposes (i.e., résumé, working portfolios, display portfolios, assessment portfolios, etc.)
- 9.7 Describe ways to build a professional portfolio [i.e., résumé, binder, digital (iPad), online portfolio, etc.]

STANDARD 10.o DEMONSTRATE COMMUNICATION SKILLS

- 10.1 Identify industry terminology appropriate to the work environment
- 10.2 Apply effective communication techniques to obtain accurate information from sources, audiences, and clients
- 10.3 Employ written, verbal, and nonverbal communications that are appropriate to the target audience and situation (i.e., active listening, empathy, body language, openness, negotiation, problem solving, conflict resolution, assertiveness, positive attitude, etc.)
- 10.4 Practice verbal, nonverbal, and listening communication skills for effectiveness with colleagues, clients, vendors, and people of diverse cultures, generations, and situations (i.e., email, text, phone call, video conferencing, interpersonal meetings, etc.)
- 10.5 Conduct formal and informal research to collect information, verify the accuracy of information, and authority of sources
- 10.6 Assess the stated purpose and audience when making content choices and developing communications
- 10.7 Apply editing and proofing skills when reviewing any communication

STANDARD 11.o INVESTIGATE INTELLECTUAL PROPERTY (IP) LAW AND RIGHTS MANAGEMENT

- 11.1 Identify current legal issues in media professions
- 11.2 Examine IP law and its ramifications (e.g., copyright, free and fair use, and licensing)
- 11.3 Explain plagiarism and its effects in business
- 11.4 Examine the IP implications of social medium/media and other delivery systems (i.e., YouTube, Soundcloud, etc.)
- 11.5 Define the establishment of a copyright

STANDARD 12.o ANALYZE THE COMMUNICATION MEDIA TECHNOLOGIES INDUSTRY, ITS BUSINESS PRACTICES, AND ITS ROLE IN THE ECONOMY

- 12.1 Investigate the history and evolution of the industry as it relates to Music and Audio Production (i.e., technology, processes, production, etc.)
- 12.2 Examine the impact of social media and emerging technologies on the industry
- 12.3 Research the societal and economic impact of the Communication Media Technologies industry
- 12.4 Examine the impact of the industry on marketing practices (i.e., delivery systems, social media, monetization, etc.)
- 12.5 Define cultural diversity and the need for awareness and sensitivity in creative and professional decision-making
- 12.6 Explain the importance of multiculturalism in creative and professional decision-making (i.e., treating impartially and fairly each ethnic group, etc.)
- 12.7 Analyze client and service provider interaction practices appropriate to the industry (e.g., customer service)

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- 12.8 Examine time management practices appropriate to the industry (i.e., scheduling, hourly tracking, task management, managing deadlines, etc.)
- 12.9 Determine costing projections for various media objectives and/or functions [e.g., cost analysis and time value of money (TVM)]
- 12.10 Identify professions that comprise the industry (i.e., music and audio production and creation, animation, broadcasting, filmmaking, graphic design, illustration, digital imaging, printing, publishing, etc.)
- 12.11 Describe how diversity (cultural, ethnic, and multigenerational) and ethics affect the selection of programs, projects, and creative choices
- 12.12 Compare various business models for generating income (i.e., employment, entrepreneurship, the gig economy, social media monetization, etc.)
- 12.13 Describe how production processes, cycles, and deadlines affect media businesses and career pathways
- 12.14 Comply with the safety standards and regulations specific to OSHA (Occupational Safety and Health Administration)
- 12.15 Describe how the Americans with Disabilities Act (ADA) affects creative professionals in various roles (e.g., employees and employers; subordinates and managers; and customers and suppliers)

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