

Instructional Framework

Music and Audio Production

15.0307.00

This Instructional Framework identifies, explains, and expands the content of the standards/measurement criteria, and, as well, guides the development of multiple-choice items for the Technical Skills Assessment. This document corresponds with the Technical Standards endorsed on July 13, 2020.



Domain 1: Production

Instructional Time: 55-65%

STANDARD.1 ENGAGE IN PRE-PRODUCTION/PLANNING PHASE OF PRODUCT CREATION

1.1 Define the roles of composers, artists, performers, engineers, agents, managers, and producers

- Responsibilities within each role
- Inner workings of music industry
- Supportive team behind an artist
- Industry jobs/occupations
- Qualifications

1.2 Define the processes of composition, practice, rehearsal, performance, tracking/capture, mixing, and mastering

- Tasks associated with each process
- Song production - start to finish
- Song writing process
- Difference between practice and rehearsal
- Content creation
- Creative process
- Production process
- Collaboration

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

- How sound works
- How sound is perceived
- Identify frequencies
- Signal flow
- Digital audio production
- Studio acoustics
- Waveforms
- Sound envelope
- Phasing
- Reflections
- Sound treatment vs. soundproofing

<p>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)</p>	<ul style="list-style-type: none"> • Signal flow • AD/DA conversion • Cabling/Connectors • Mic techniques • D.I. use • Plug-ins • DAW setup and operation • Audio interfaces • Microphones • Amplifiers • Mixers • Cables • Monitor • Control room
<p>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.)</p>	<ul style="list-style-type: none"> • Signal flow • FOH mixing • Monitor mixing • PA system setup • Measuring loudness • Broadcast • Troubleshooting • Use of mixing console in live • Live event • Onsite • Stage plot
<p>1.6 Demonstrate industry standard instrumental/vocal techniques in preparation for the creation, live performance, and recording of music</p>	<ul style="list-style-type: none"> • Signal flow • AD/DA conversion • Cabling/Connectors • Mic techniques • D.I. use • Plug-ins • DAW setup and operation • Audio interfaces • Microphones • Amplifiers • Mixers • Cables

	<ul style="list-style-type: none"> • Monitor • Control room
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	<ul style="list-style-type: none"> • Signal flow • FOH mixing • Monitor mixing • PA system setup • Measuring loudness • Broadcast • Troubleshooting • Use of mixing console in live • Live event • Onsite • Stage plot
1.8 Demonstrate a functional understanding of the standard structural components of contemporary music styles/genres/arrangements including Verse, Chorus, and Bridge	<ul style="list-style-type: none"> • Signal flow • AD/DA conversion • Cabling/Connectors • Mic techniques • D.I. use • Plug-ins • DAW setup and operation • Audio interfaces • Microphones • Amplifiers • Mixers • Cables • Monitor • Control room
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	<ul style="list-style-type: none"> • Signal flow • FOH mixing • Monitor mixing • PA system setup • Measuring loudness • Broadcast • Troubleshooting • Use of mixing console in live • Live event

	<ul style="list-style-type: none"> • Onsite • Stage plot
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	<ul style="list-style-type: none"> • Microphone types • Microphone characteristics • Microphone placement • Dynamic • Condenser • Tube • Ribbon • Mic techniques • Polar patterns
2.2 Demonstrate industry standard usage of amplifiers (e.g., pre, power, and instrument amplifiers) for various functions in live and recording applications	<ul style="list-style-type: none"> • Identify tube/solid state • Pre • Power • Instrument amplifiers • Pros/cons of amp vs. Di • Preamp • Power amps
2.3 Demonstrate industry standard usage of audio production consoles (mix desks) in live and recording applications	<ul style="list-style-type: none"> • Headphone mixes • Inserts/Sends • Channel strip • Auxiliaries • Console operation • Signal flow • Plug-in effects • Mixing • Processing
2.4 Demonstrate industry standard usage of audio component interconnectivity and related signal flow for analog and digital audio recording and live systems	<ul style="list-style-type: none"> • Component interconnectivity • Signal flow • Console operation • Input/Output
2.5 Use MIDI instruments, processes, and methods for sound production, synchronization, and data/control applications	<ul style="list-style-type: none"> • Virtual Instruments • MIDI programming • MIDI editing

	<ul style="list-style-type: none"> • MIDI recording • Controllers • Data
2.6 Execute industry standard multi-track studio recording/capture, mixing, and monitoring techniques for music, Foley, and spoken word	<ul style="list-style-type: none"> • Session setup • Track sheets • Documentation • Multi-track recording process • Audio capture • Inserts and plug-ins • Mic techniques • Foley and spoken word capture and production
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	<ul style="list-style-type: none"> • Input lists • Compression • Live onsite recording • Live studio recording • DAW operation • Analog recording • Session sheets • Live performance gear • Recording gear
2.8 Implement the operation and execution of industry standard audio production tasks for recording sessions	<ul style="list-style-type: none"> • Run a recording session from start to finish • Pre-production planning • Tracking • Mastering • Recording session process
2.9 Collaborate with other musicians to perform works of music for recording sessions	<ul style="list-style-type: none"> • Collaborate with other musicians • Song writing • Session planning • Ensemble performance
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	<ul style="list-style-type: none"> • Create original works of music using acoustic, electric, electronic, MIDI, and software, and instruments • Song composition • Song Structure • Common pop/mainstream writing techniques • Creative process

	<ul style="list-style-type: none"> • Audience perception • Industry standards
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.)	<ul style="list-style-type: none"> • Nashville numbers • Standard musical notation • Chord progression • Harmony and melody
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.)	<ul style="list-style-type: none"> • Demonstrate use of effects processors to enhance live performances • Dynamic • Timbre shaping • Modulation • Ambient • Live sound venue • Broadcast • Onsite location recording
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)	<ul style="list-style-type: none"> • Demonstrate use of effects processors to enhance audio recordings • Dynamic • Timbre shaping • Modulation • Ambient • Inserts • Plug-ins
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.)	<ul style="list-style-type: none"> • Demonstrate ability to prepare live recorded material for mastering • Live sound venue • Broadcast • Onsite location recording • Multi-tracking • Room acoustics
3.4 Execute industry standard recording studio multi-track audio mixing techniques for material captured during recording studio sessions	<ul style="list-style-type: none"> • Demonstrate ability to prepare multi-track recording for mastering • Multi-tracking • Inserts

	<ul style="list-style-type: none"> • Room acoustics • Plug-ins • Mixing
3.5 Execute industry standard audio mastering techniques for material captured during live performances (i.e., live sound venue, broadcast, onsite location recording, etc.)	<ul style="list-style-type: none"> • Demonstrate ability to master live performance material in preparation for digital distribution • Live sound venue • Broadcast • Onsite location recording • Cleaning up a live recording • Mastering
3.6 Execute industry standard audio mastering techniques for material captured during recording sessions	<ul style="list-style-type: none"> • Demonstrate ability to master studio performance material in preparation for digital distribution • Use of plug-ins • Use of mastering techniques • Mastering
3.7 Create multiple arrangements/versions of the same captured audio material using industry standard audio editing, mixing, mastering, and remixing techniques and procedures	<ul style="list-style-type: none"> • Demonstrate the ability to remix audio recordings using standard editing, mixing, and mastering techniques • Use of plug-ins • Ability to mix and edit in a DAW • Arranging • Remixing
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	<ul style="list-style-type: none"> • Ear training • Loudness • Troubleshooting during recording and production phases • Evaluation techniques • Content quality • Capture • Audience expectations
4.2 Improve recording and production techniques using industry standard audio editing, mixing, mastering, and remixing techniques and procedures	<ul style="list-style-type: none"> • Reference mixes • Mixing for your audience • Tips and tricks • Mic techniques • Plug-ins • Editing/mixing in a DAW

	<ul style="list-style-type: none"> • Arranging • Remixing
4.3 Critique musical ideas in terms of commercial viability and general musical effectiveness	<ul style="list-style-type: none"> • Post-production analysis • Mass appeal/marketing • Evaluation techniques • Content quality • Capture • Audience/client expectations
4.4 Improve musical ideas using industry standard audio editing, mixing, mastering, remixing, and music composition techniques and procedures	<ul style="list-style-type: none"> • Editing/mixing in a DAW • Mixing techniques • Plug-ins • Iteration • Editing • Retracking
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	<ul style="list-style-type: none"> • Understand the difference between recording formats, their benefits, and limitations • Editing • Bouncing • Formatting • DAW procedures • Mixdown
5.2 Compile/sequence complete, multi-track, audio albums to reflect consumer expectations and current commercial trends	<ul style="list-style-type: none"> • Demonstrate ability to prepare a musical release for distribution • Album assembly • Marketing • Audience/client expectations • Deliverables
5.3 Determine the digital audio recording formats appropriate for various forms of distribution	<ul style="list-style-type: none"> • Identify the benefits and limitations of digital music platforms • Bouncing (settings) • Uploading • Formatting • DAW procedures • Mixdown

5.4 Create deliverables (i.e., mp3s, CDs, web-ready audio files, etc.)	<ul style="list-style-type: none"> • Demonstrate the ability to create digital files and physical medium for distribution • Mp3s • CDs • Web-ready audio files • Bouncing (correct format)
5.5 Export deliverables for various industry standard applications (i.e., mp3s, CDs, web-ready audio files, etc.)	<ul style="list-style-type: none"> • Demonstrate the ability to export finished audio products for distribution • Mp3s • CDs • Web-ready audio files
5.6 Import deliverables for various industry standard applications (i.e., mp3s, CDs, web-ready audio files, etc.)	<ul style="list-style-type: none"> • Demonstrate the ability to import finished audio products to various platforms for distribution • Mp3s • CDs • Web-ready audio files
5.7 Prepare content for streaming according to industry standard specifications	<ul style="list-style-type: none"> • Demonstrate the ability to identify the loudness standards of various digital platforms • Bouncing • Formatting • Streaming
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	<ul style="list-style-type: none"> • Setup and operate a PA-system for a live event • Signal flow • Front-of-House duties • PA systems
6.2 Execute audio production tasks for live music events, including Front-Of-House, Monitoring, and Recording desk operations	<ul style="list-style-type: none"> • Operate a PA-system for live music event • Console operation • Live mixing • Staging
6.3 Demonstrate proper instrumental/vocal techniques for live performance	<ul style="list-style-type: none"> • Microphone/instrument setup • Mic techniques • Dynamic • Timbre shaping

	<ul style="list-style-type: none"> • Modulation • Ambient
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	<ul style="list-style-type: none"> • Microphone selection • Equipment selection • Dynamic • Timbre shaping • Modulation • Ambient
6.5 Collaborate with other musicians to perform works of music for an audience	<ul style="list-style-type: none"> • Execute a live event • Communication • Collaborative for effective sound • Performance

Domain 2: Computer Literacy

Instructional Time: 5-10%

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.)	<ul style="list-style-type: none"> • Identify the benefits and limitations of various software and hardware • Recording studio • Post-production studio • Live sound venue • Broadcast • Onsite location recording • Content Capture (i.e., FL Studio, Logic, Ableton Live, Studio One, Beautiful Audio Editor, Pro Tools, Audacity, etc.)
7.2 Select appropriate formats for music and audio content based on industry standards and expectations	<ul style="list-style-type: none"> • Demonstrate ability to choose the appropriate audio format for content platform • Bouncing • Formatting • Mp3s • CDs • Web-ready audio files

7.3 Determine efficient methods for accessing, converting, editing, archiving, and distributing content (i.e., sharing between systems, contractors, clients, etc.)	<ul style="list-style-type: none"> • Sharing between systems • Contractors • Clients • Streaming services/Social media (i.e., YouTube, Instagram, SoundCloud, etc.)
STANDARD 8.0 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.)	<ul style="list-style-type: none"> • Pre-production • Post-production • Digital streaming • Content Capture (i.e., FL Studio, Logic, Ableton Live, Studio One, Beautiful Audio Editor, Pro Tools, Audacity, etc.)
8.2 Apply essential commands and knowledge of computer- and mobile-operating systems	<ul style="list-style-type: none"> • Demonstrate computer proficiency • Basic computer operation • Operating systems (i.e., IOS, OSX, Mac, Windows, Linux, etc.)
8.3 Utilize digital file management techniques for organizing, archiving, and version control	<ul style="list-style-type: none"> • Effective archiving, storage techniques • File management • Data storage
8.4 Maintain equipment and related accessories	<ul style="list-style-type: none"> • Equipment maintenance • Computer maintenance • Maintenance procedures and practices
8.5 Explain methods of protecting computer and network systems against data loss and external threats (e.g., on-premise and in the cloud)	<ul style="list-style-type: none"> • On-premise • In the cloud

Domain 3: Career Preparation

Instructional Time: 5-10%

STANDARD 9.0 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	<ul style="list-style-type: none"> • Demonstrate ability to proofread • Editing • Proofreading
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<p>9.2 Research deliverables using industry-specific terminology (i.e., presentation, project, portfolio, electronic press kit; résumé, etc.)</p>	<ul style="list-style-type: none"> • Presentation • Project • Portfolio • Electronic press kit • Résumé
<p>9.3 Present deliverables using industry-specific terminology (i.e., presentation, project, portfolio, electronic press kit; résumé, etc.)</p>	<ul style="list-style-type: none"> • Presentation • Project • Résumé • Portfolio • Electronic press kit
<p>9.4 Identify professional attire, (“dress for success”), standards and practices</p>	<ul style="list-style-type: none"> • Dress for the job • First impressions • Dress to impress • Appropriate attire
<p>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)</p>	<ul style="list-style-type: none"> • How to impress with your portfolio • Résumé • Organized collection of relevant writing • Graphics • Projects • Artifacts showcasing talents and relevant skills • Summary of professional growth
<p>9.6 Describe portfolio types serving different purposes (i.e., résumé, working portfolios, display portfolios, assessment portfolios, etc.)</p>	<ul style="list-style-type: none"> • Résumé • Working portfolios • Display portfolios • Assessment portfolios
<p>9.7 Describe ways to build a professional portfolio [i.e., résumé, binder, digital (iPad), online portfolio, etc.]</p>	<ul style="list-style-type: none"> • Website building • Free web hosting • Résumé • Binder • Digital (iPad) • Online portfolio • Online distribution (i.e., WordPress, SoundCloud, Bandcamp, etc.)

Domain 4: Communications

Instructional Time: 5-10%

STANDARD 10.0 DEMONSTRATE COMMUNICATION SKILLS

10.1 Identify industry terminology appropriate to the work environment	<ul style="list-style-type: none">• Understand how to execute clients' wants• Interviewing skills• One-on-one communication• Communication techniques
10.2 Apply effective communication techniques to obtain accurate information from sources, audiences, and clients	<ul style="list-style-type: none">• Understand how to read the room• Active listening• Empathy• Body language• Openness• Negotiation• Problem solving• Conflict resolution• Assertiveness• Positive attitude
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.)	<ul style="list-style-type: none">• Demonstrate an understanding of various cultural business practices• Email• Text• Phone call• Video conferencing• Interpersonal meetings
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.)	<ul style="list-style-type: none">• Marketing concepts• Surveys• Research
10.5 Conduct formal and informal research to collect information, verify the accuracy of information, and authority of sources	<ul style="list-style-type: none">• Communication comprehension• Determine target audience• Content choices and developing communications
10.6 Assess the stated purpose and audience when making content choices and developing communications	<ul style="list-style-type: none">• Proofreading• Editing

10.7 Apply editing and proofing skills when reviewing any communication	<ul style="list-style-type: none"> • Effective communication in the industry • Music industry vocabulary • Audio production industry vocabulary • Recording studio vocabulary
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Domain 5: Industry Concepts
Instructional Time: 5-10%

STANDARD 11.0 INVESTIGATE INTELLECTUAL PROPERTY (IP) LAW AND RIGHTS MANAGEMENT

11.1 Identify current legal issues in media professions	<ul style="list-style-type: none"> • Free and fair use • Creative Commons • Licensing • Recording laws • Privacy • Copyright • IP protections
11.2 Examine IP law and its ramifications (e.g., copyright, free and fair use, and licensing)	<ul style="list-style-type: none"> • Copyright • Free and fair use • Licensing
11.3 Explain plagiarism and its effects in business	<ul style="list-style-type: none"> • Copyright infringement • Impact of plagiarism
11.4 Examine the IP implications of social medium/media and other delivery systems (i.e., YouTube, Soundcloud, etc.)	<ul style="list-style-type: none"> • Delivery Systems (i.e., YouTube, SoundCloud, Spotify, Twitter, IG, etc.)
11.5 Define the establishment of a copyright	<ul style="list-style-type: none"> • U.S. Copyright Office • Public domain • Copyright process • Creative Commons

STANDARD 12.0 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.)	<ul style="list-style-type: none"> • Technology • Processes • Production
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12.2 Examine the impact of social media and emerging technologies on the industry	<ul style="list-style-type: none"> • Impact of social media • Social media responsibility
12.3 Research the societal and economic impact of the Communication Media Technologies industry	<ul style="list-style-type: none"> • Understand the evolving nature of the digital content creation • Evolution and impact of mass media
12.4 Examine the impact of the industry on marketing practices (i.e., delivery systems, social media, monetization, etc.)	<ul style="list-style-type: none"> • Delivery systems • Social media • Monetization
12.5 Define cultural diversity and the need for awareness and sensitivity in creative and professional decision-making	<ul style="list-style-type: none"> • Understanding cultural diversity • Cultural awareness and sensitivity • Culture as it relates to art • Cultural sensitivity
12.6 Explain the importance of multiculturalism in creative and professional decision-making (i.e., treating impartially and fairly each ethnic group, etc.)	<ul style="list-style-type: none"> • Treating impartially fairly each ethnic group
12.7 Analyze client and service provider interaction practices appropriate to the industry (e.g., customer service)	<ul style="list-style-type: none"> • Customer service
12.8 Examine time management practices appropriate to the industry (i.e., scheduling, hourly tracking, task management, managing deadlines, etc.)	<ul style="list-style-type: none"> • Scheduling • Hourly tracking • Task management • Managing deadlines
12.9 Determine costing projections for various media objectives and/or functions [e.g., cost analysis and time value of money (TVM)]	<ul style="list-style-type: none"> • Cost analysis • 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.)	<ul style="list-style-type: none"> • Music and audio production and creation • Animation • Broadcasting • Filmmaking • Graphic design • Illustration • Digital imaging • Printing • Publishing

12.11 Describe how diversity (cultural, ethnic, and multigenerational) and ethics affect the selection of programs, projects, and creative choices	<ul style="list-style-type: none"> • Code of ethics • Industry diversity driving choices and collaborations
12.12 Compare various business models for generating income (i.e., employment, entrepreneurship, the gig economy, social media monetization, etc.)	<ul style="list-style-type: none"> • Employment • Entrepreneurship • The gig economy • Social media monetization
12.13 Describe how production processes, cycles, and deadlines affect media businesses and career pathways	<ul style="list-style-type: none"> • Production process • Interconnectivity of elements and processes and procedures to careers
12.14 Comply with the safety standards and regulations specific to OSHA (Occupational Safety and Health Administration)	<ul style="list-style-type: none"> • Workplace safety • Safety standards and regulations
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)	<ul style="list-style-type: none"> • Employees and employers • Subordinates and managers • Customers and suppliers