## **Instructional Framework**

## ARIZONA CTF

## **Digital Communication**

09.0702.00

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 May 19, 2021.

Domain 1: Production Instructional Time: 45 - 50%	
STANDARD 4.0 USE HARDWARE AND SOFTWARE TO MANAGE MEDIA	
4.1 Use industry-specific software (i.e., Adobe, Constant Contact, WordPress, Microsoft, etc.)	Online Publishing WordPress Word Processing Microsoft Google Photo Management and Processing Lightroom Photoshop Adobe Camera Raw Bridge Video Creation Premiere Pro Media Encoder Apple Motion Final Cut Pro After Effects Graphic/Page Design Illustrator InDesign Audio Creation GarageBand Logic Pro Audition Constant Contact
4.2 Describe the basic functions of computer operating systems	<ul><li>MacOS vs. Windows</li><li>Security</li></ul>

	<ul><li>Storage/sharing</li><li>Ejecting drives</li></ul>
4.3 Apply essential computer commands for maximum efficiency (i.e., shortcuts, etc.)	Keyboard shortcuts
4.4 Apply computer file management techniques for organizing, archiving, and version control	<ul> <li>File naming system</li> <li>Key words</li> <li>Dates</li> <li>Labels</li> <li>Hierarchy</li> <li>Folder</li> <li>Subfolder</li> <li>Storage location</li> <li>Hard drive</li> <li>Server</li> <li>Flash drive</li> <li>Cloud</li> <li>Formatting and style</li> <li>Formats of publication</li> <li>Online newspaper</li> <li>Social media</li> <li>Yearbook</li> <li>Video newscast</li> <li>Forms of storytelling</li> <li>News</li> <li>Feature</li> <li>Sports</li> <li>Opinion</li> </ul>
4.5 Describe the functionality of the internet, intranet, and extranet in the media environment	<ul><li>Functionality</li><li>Accessibility</li><li>Security</li></ul>
4.6 Use file transfer methods (i.e., internet, Bluetooth, airdrop, intranet, etc.)	<ul> <li>File transfer methods:</li> <li>Internet</li> <li>Bluetooth</li> <li>Airdrop</li> <li>Intranet</li> <li>Upload</li> <li>Download</li> </ul>

	<ul> <li>Import</li> <li>Website</li> <li>Email</li> <li>Dropbox</li> <li>Google Drive</li> <li>Flash drive</li> </ul>
4.7 Select the format for digital delivery (input/output) (e.g., TIFF. JPEG, Raw File, and PDF)	<ul> <li>TIFF</li> <li>JPEG</li> <li>Raw File</li> <li>PDF</li> <li>PSD</li> <li>GIF</li> <li>PNG</li> <li>INDD</li> <li>AI</li> <li>Preflight/package</li> <li>Embedded</li> <li>Cloud</li> <li>MP4</li> <li>MOV</li> <li>ZIP</li> </ul>
4.8 Explain methods to protect a computer against computer threats (cybersecurity)	<ul> <li>Computer protection methods</li> <li>Firewall</li> <li>Back up</li> <li>Anti-virus software</li> <li>Password security</li> </ul>
4.9 Use and care for equipment and related accessories	<ul> <li>Equipment management</li> <li>Cleaning</li> <li>Storage</li> <li>Handling</li> <li>Organization/checkout</li> <li>Usage/User manual</li> <li>Workstation care</li> <li>Safety procedures</li> <li>OSHA</li> </ul>

STANDARD 5.0 USE DEVICES AND SOFTWARE FOR DATA CAPTURE ANI	D MANIPULATION
5.1 Identify software that supports data capture for media devices (i.e., audio, digital camera, lighting, video input device, graphics, tablet, graphic cards, etc.)	Software programs Adobe Suite (Photoshop, InDesign, Premiere Pro, Audition, Illustrator) Mac Specific Programs (Final Cut, GarageBand: Music Creation for Copyright, Logic Pro) Other options (Audacity, Canva, Procreate, WeVideo)  Audio Microphones Digital camera DSLR Mobile devices Lighting Off camera lighting/studio lighting or video lighting Video Input Premiere Pro Final Cut Pro Encoder Project Design Illustrator Canva Photoshop Tablets Use of tablets Android vs. iPads Procreate Video input device, graphics, tablet, graphic cards GarageBand: Music Creation for Copyright Logic Pro
5.2 Demonstrate the use of devices (e.g., capture, process, and transfer still image, audio, and moving image)	<ul> <li>Capture</li> <li>Digital Single Lens Reflex (DSLR)</li> <li>Mobile devices</li> <li>Video camera</li> <li>Microphone</li> <li>Process</li> <li>Adobe Suite</li> <li>Bridge</li> <li>Photoshop</li> <li>Lightroom</li> <li>Premiere Pro</li> </ul>

	<ul> <li>Audition</li> <li>GarageBand</li> <li>WeVideo</li> <li>Audacity</li> <li>Transfer still image, audio, and moving image</li> <li>Memory cards</li> <li>External drives</li> <li>Cloud</li> <li>Encoder</li> </ul>
5.3 Select the appropriate format and resolutions for data capture	<ul> <li>Format <ul> <li>RAW</li> <li>.dng</li> <li>.jpeg</li> <li>.tiff</li> <li>.png</li> <li>.mov</li> <li>.mp3</li> <li>.mp4</li> <li>.pdf</li> </ul> </li> <li>Resolution <ul> <li>Print resolution 300dpi</li> <li>Screen/web resolution 72 dpi</li> <li>Video resolution 1080p</li> <li>4k</li> </ul> </li> </ul>
5.4 Export, manage, and archive data for media applications	<ul> <li>Hierarchy/workflow</li> <li>Working files vs. Sharable files</li> <li>Key words</li> <li>Naming conventions</li> <li>Dates</li> <li>Labels</li> <li>Libraries</li> <li>Server</li> <li>Images: correct size and resolution</li> <li>Video: codecs/file type/rendering</li> <li>Delete/archive files</li> </ul>

## Domain 2: Pre-Production / Information Gathering Instructional Time: 20 - 25%

STANDARD 3.0 DEMONSTRATE COMMUNICATION SKILLS REQUIRED BY	THE MEDIA INDUSTRY
3.1 Use industry terminology appropriately in the work environment	<ul> <li>Style Guide</li> <li>Jargon</li> <li>Acronyms</li> <li>Organizational structure</li> <li>Editorial board/editors</li> <li>Pitch/assignment</li> </ul>
3.2 Use effective communication and research techniques to obtain accurate information from sources, audiences, and clients	<ul> <li>Research techniques         <ul> <li>Fact checking</li> <li>Target audience</li> <li>Survey samples/random</li> </ul> </li> <li>Sources         <ul> <li>Credible</li> <li>Attribution</li> <li>Citations</li> <li>Primary source</li> <li>Secondary source</li> <li>Bias</li> </ul> </li> <li>Interviewing         <ul> <li>Questioning strategies (open-ended questions)</li> <li>Paraphrasing</li> <li>Direct quotes</li> <li>Indirect quotes</li> </ul> </li> <li>Professionalism</li> </ul>
3.3 Use verbal and nonverbal communication skills with all people, including people of diverse cultures and generations	<ul> <li>Verbal communication</li> <li>Telephone conversations</li> <li>Face to face meetings</li> <li>Video conferences</li> <li>Speeches</li> <li>Written communication</li> <li>Memos</li> <li>Letters</li> <li>Newsletters</li> <li>Email</li> </ul>

	<ul> <li>Text</li> <li>Short and simple</li> <li>Social Norms</li> <li>Cultural differences</li> <li>Eye contact</li> <li>Pronouns</li> <li>Hand and body movements</li> <li>Gestures</li> <li>Facial expressions</li> <li>Tone</li> <li>Volume</li> <li>Physical appearance</li> </ul>
3.4 Explain the importance of business communications (i.e., in person, email, text messages, body language, word choice, auto-correct, etc.)	<ul> <li>In person</li> <li>Email</li> <li>Text messages</li> <li>Body language</li> <li>Word choice</li> <li>Auto-correct</li> <li>Meetings</li> <li>Social media <ul> <li>LinkedIn</li> </ul> </li> <li>Online chat</li> </ul>
3.5 Format communications for the purpose, audience, and medium/media	<ul> <li>Appropriate packaging</li> <li>Email</li> <li>Social media</li> <li>Video</li> <li>Phone call</li> <li>Text message</li> <li>Style and formatting</li> <li>AP style</li> <li>Script style</li> </ul>
3.6 Use editing and proof-reading skills when reviewing communications (i.e., spellcheck for errors, etc.)	<ul> <li>Copy editing checklist</li> <li>Print a hard copy</li> <li>Spell check</li> <li>Style guide</li> <li>Read out loud</li> <li>Remove excess words</li> </ul>

	<ul> <li>Explain or remove jargon</li> <li>Sentence structure</li> <li>Flow</li> <li>Peer edit</li> <li>Verify dates and times</li> <li>Verify names</li> <li>Watch for homophones</li> <li>Check hyperlinks</li> </ul>
3.7 Explain how intellectual property can be violated through communication errors (e.g., sender uses wrong email address, recipient forwards the email, Excel attachment contains hidden content in a tab, and data is forwarded to a personal mail account)	<ul> <li>Examples of IP violations</li> <li>Sender uses wrong email address</li> <li>Recipient forwards the email</li> <li>Excel attachment contains hidden content in a tab</li> <li>Data is forwarded to a personal mail account</li> <li>Lacks attribution</li> </ul>
3.8 Compare and contrast audio/video presentation methods (i.e., software, virtual platforms, etc.)	<ul> <li>Software</li> <li>Virtual platforms <ul> <li>YouTube</li> <li>Soundcloud</li> <li>Weebly/Wix</li> <li>Podcasts</li> <li>Livestream</li> </ul> </li> <li>Considerations <ul> <li>Audience</li> <li>Purpose</li> <li>Accessibility</li> </ul> </li> </ul>
3.9 Discuss the purpose, content, and steps in creating a media portfolio	<ul> <li>Purpose <ul> <li>Objective</li> <li>Intent</li> </ul> </li> <li>Content <ul> <li>Featured works</li> <li>Resume</li> <li>Visuals</li> <li>Categories</li> </ul> </li> <li>Format <ul> <li>Webpage</li> <li>Print binder</li> <li>Video reel</li> </ul> </li> <li>Steps in creating</li> </ul>

	<ul><li>Production cycle</li><li>Proofing</li></ul>	
STANDARD 6.0 PERFORM TASKS IN THE PRE-PRODUCTION PLANNING PHASE OF MEDIA PROJECTS		
6.1 Articulate publishing platforms in today's media (i.e., digital news, video, podcast, live streaming, etc.)	<ul> <li>Publishing platforms</li> <li>Print</li> <li>Books</li> <li>Magazines</li> <li>Zines</li> <li>Print newspapers</li> <li>Yearbook</li> <li>Digital news</li> <li>Web based newspaper</li> <li>Blogging</li> <li>Weebly/Wix/WordPress</li> <li>Video</li> <li>Live streaming</li> <li>YouTube</li> <li>Vlogging</li> <li>Audio</li> <li>Podcast</li> <li>Soundcloud</li> <li>Social media</li> <li>(Twitter, TikTok, YouTube, Spotify, Twitch, Apple, Snap Chat, Instagram etc.)</li> </ul>	
6.2 Demonstrate brainstorming, storyboarding, and the content strategy process to deliver conceptual ideas and stories to appropriate stakeholders	<ul> <li>Preproduction/information gathering</li> <li>Research</li> <li>Drafting</li> <li>Storyboarding</li> <li>Pitching</li> <li>Sources</li> <li>Branding</li> <li>Audiences</li> <li>Editing</li> <li>Revising</li> <li>Scripts</li> <li>Prototypes/proofs</li> </ul>	

6.3 Explain the vetting process when publishing original work or prepublished work for accuracy, balance, fairness, proper attribution, and credibility (i.e., intellectual property, conflicts, public domain, opinions vs. facts, op-ed, etc.)	<ul> <li>Vetting Process</li> <li>Creative Commons</li> <li>Symbols</li> <li>Fair use</li> <li>Trademark infringement</li> <li>Copyright infringement</li> <li>Appropriation</li> <li>Public domain</li> <li>Intellectual property</li> <li>Conflicts</li> <li>Opinions vs. facts, op-ed</li> <li>Defamation</li> <li>Invasion of privacy</li> </ul>
6.4 Describe and utilize design elements (i.e., fonts, line spacing, overall format, color palette, alignment, margins, headers, footers, etc.)	<ul> <li>Typography <ul> <li>Fonts</li> <li>Leading (line spacing)</li> <li>Kerning</li> <li>Tracking</li> <li>Serif</li> <li>Sans Serif</li> <li>Script</li> <li>Display</li> </ul> </li> <li>Layout (Overall format) <ul> <li>Alignment</li> <li>Margins</li> <li>Headers</li> <li>Footers</li> <li>Gutters</li> <li>Columns</li> <li>Slug</li> <li>Grid</li> </ul> </li> <li>Composition</li> <li>Color <ul> <li>Color palette</li> <li>Color Theory</li> <li>CMYK</li> <li>RGB</li> </ul> </li> </ul>

6.5 Demonstrate proper media device operation and safety following the brand key guidelines	<ul> <li>Media device management</li> <li>Read the manual</li> <li>Properly eject</li> <li>Brand</li> <li>Format</li> <li>Reboot</li> <li>Passwords</li> <li>Encryption</li> <li>Camera care</li> <li>Camera use</li> <li>Camera storage</li> </ul>
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Domain 3: Post-Production / Marketing and Distribution Instructional Time: 15 - 20%	
7.1 Utilize the editing/revision process (i.e., established checklist protocols, etc.)	<ul> <li>Established checklist protocols</li> <li>Editing marks</li> <li>AP Style Guide</li> <li>Credible sources</li> <li>Attribution</li> </ul>
7.2 Explain the steps in a quality control plan to maintain quality assurance (e.g., planning, implementation, and assessment)	<ul><li>Planning</li><li>Implementation</li><li>Assessment</li></ul>
7.3 Implement an approval process (i.e., proofing draft, master copy, etc.)	<ul> <li>Components needed for approval</li> <li>Proofing draft</li> <li>Copy editor</li> <li>Master copy</li> </ul>
7.4 Analyze publishing options and select appropriate equipment for the application	<ul> <li>Publishing platforms</li> <li>Print</li> <li>Magazine</li> <li>Newspaper</li> <li>Book/yearbook</li> <li>Printer</li> <li>Digital news</li> </ul>

	<ul> <li>Web based newspaper</li> <li>Blogging</li> <li>Weebly/Wix/WordPress</li> <li>Self-Publish</li> <li>eBook</li> <li>Video</li> <li>Live Streaming</li> <li>YouTube</li> <li>Vlogging</li> <li>Audio</li> <li>Podcast</li> <li>Soundcloud</li> <li>Social media</li> <li>(Twitter, TikTok, YouTube, Spotify, Twitch, Apple, Snap Chat, Instagram etc.)</li> </ul>	
7.5 Explain how to preflight and package a file before handoff	<ul> <li>Preflight Package file</li> <li>Print</li> <li>Video</li> <li>Audio</li> <li>Social media</li> </ul>	
STANDARD 8.0 DELIVER/DISTRIBUTE PRODUCTS USING VARIOUS MEDIA IN ACCORDANCE WITH CONSUMER EXPECTATIONS		
8.1 Use strategies and tools to publish a digital product (i.e., social media, website/blog, podcast/streaming, other web-based platforms, etc.)	<ul> <li>Strategies</li> <li>Social media</li> <li>Analytics</li> <li>Streaming</li> <li>SEO</li> <li>Tools</li> <li>Social media</li> <li>Website/blog</li> <li>Podcast</li> <li>Other web-based platforms</li> </ul>	
8.2 Use social media distribution tools to disseminate digital communications (i.e., Sprout, Hootsuite, Hubs, etc.)	<ul> <li>Social media distribution tools</li> <li>Sprout</li> <li>Hootsuite</li> <li>Hubs</li> <li>Intensive, selective, and exclusive distribution</li> </ul>	

8.3 Use multiple tools/channels to distribute a digital product (i.e., website, electronic newsletter platform, social media platform, podcast, etc.)	<ul> <li>Types of distribution channels</li> <li>Direct, indirect, dual</li> <li>Electronic newsletter platform</li> <li>Social media platform</li> <li>Podcast</li> </ul>
	<ul><li>Website</li><li>Digital downloads</li></ul>
	<ul> <li>Digital subscriptions</li> <li>Mobile apps</li> </ul>
	<ul> <li>Cloud based services</li> </ul>
	<ul><li>eBooks</li><li>SEO and PPC</li></ul>
	<ul><li>Print Magazine</li><li>Books</li></ul>
	<ul><li>Print newspapers</li><li>Digital newspaper</li></ul>
	<ul> <li>Yearbooks</li> </ul>
	<ul><li>Zines</li></ul>

Domain 4: Media History, Law and Ethics Instructional Time: 10 - 15%		
STANDARD 1.0 DESCRIBE THE MEDIA INDUSTRY AND ITS ROLE IN THE ECONOMY		
1.1 Research the role of the media industry and the industry's impact on society and the economy	<ul> <li>Functions of media</li> <li>Inform</li> <li>Educate</li> <li>Entertain</li> <li>Public forum</li> <li>Role of economy</li> <li>Marketing</li> <li>Advertising</li> <li>Sales</li> <li>Jobs</li> </ul>	
1.2 Investigate the history and evolution of media	<ul> <li>Key media figures</li> <li>Joseph Pulitzer</li> <li>William Randolph Hearst</li> <li>Ida Tarbell</li> </ul>	

	o Ida B. Wells o Nellie Bly Walter Cronkite Edward R. Murrow Friedrich Koenig Samuel Morse Influencers Key events that changed the way the world looks at media Spoken word Printed word Photography Motion picture Telegraph Telephone Newspaper Radio TV Internet Social media Categories of media Journalism Film Print Communications Broadcast Advertising Public relations Social media
1.3 Examine the impact of emerging technologies on the media industry (e.g., 5G devices, virtual reality, anti-ad blocking, automated journalism, social outreach apps, data virtualization, wearable technology, and video creation)	<ul> <li>Impact of emerging technologies on media</li> <li>5G devices</li> <li>Virtual reality</li> <li>Anti-ad blocking</li> <li>Automated journalism</li> <li>Social outreach apps</li> <li>Data virtualization</li> <li>Wearable technology</li> <li>Video creation</li> <li>Mobile devices</li> <li>Voice recognition software</li> </ul>

1.4 Identify factors that contribute to the success of media businesses and freelance/contract providers (i.e., good ideas and standards, target groups, product awareness, right tools and talent, etc.)	<ul> <li>Good ideas and standards         <ul> <li>Quality content</li> </ul> </li> <li>Target groups         <ul> <li>Define your audience</li> </ul> </li> <li>SEO/digital audience strategies         <ul> <li>Distribution platform</li> <li>Product awareness</li> <li>Right tools and talent</li> </ul> </li> </ul>
1.5 Describe how processes and cycles affect production in media businesses required to complete a product from idea to final master copy	<ul> <li>The Production Cycle</li> <li>Pre-production</li> <li>Production</li> <li>Post-production</li> <li>Distribution</li> <li>Media processes</li> <li>Access</li> <li>Analyze</li> <li>Evaluate</li> <li>Create</li> </ul>
1.6 Discuss cost and price in relationship to media products, projects, and businesses (i.e., hourly-based, project-based, retainer pricing, value-based, package pricing, performance-based, and equity pricing)	<ul> <li>Pricing strategies</li> <li>Hourly-based</li> <li>Project-based</li> <li>Retainer pricing</li> <li>Value-based</li> <li>Package pricing</li> <li>Performance-based</li> <li>Equity pricing</li> <li>Outsourcing</li> <li>Advertising</li> <li>Cost analysis</li> </ul>
STANDARD 2.0 INVESTIGATE INTELLECTUAL PROPERTY LAW AND RIGHTS MANAGEMENT	
2.1 Describe common legal issues in media professions (e.g., free speech, defamation, copyright, censorship, and issues involving intellectual privacy law regarding printing content, broadcasting over the air, and publishing online)	<ul> <li>Free speech</li> <li>Defamation         <ul> <li>Libel/slander</li> </ul> </li> <li>Copyright</li> <li>Censorship</li> <li>Issues involving intellectual privacy law regarding printing content</li> </ul>

	<ul> <li>Broadcasting over the air         <ul> <li>FCC profanity</li> </ul> </li> <li>Publishing online</li> <li>Key Cases/SCOTUS         <ul> <li>Hazelwood vs. Kuhlmeier</li> <li>Tinker vs. Des Moines</li> </ul> </li> <li>Legislation/Media Law         <ul> <li>Freedom of Information Act</li> <li>Sunshine Law</li> <li>New voices legislation</li> </ul> </li> </ul>
2.2 Explain the importance of fair use for the individual and the business (e.g., intellectual property, patents, copyrights, trademarks, trade secrets, and protecting ideas and concepts)	<ul> <li>Intellectual property</li> <li>Patents</li> <li>Copyrights</li> <li>Trademarks</li> <li>Trade secrets</li> <li>Protecting ideas and concepts</li> </ul>
2.3 Explain plagiarism and describe effects on business	<ul> <li>Effects of plagiarism</li> <li>Credibility</li> <li>Employability: i.e., Jayson Blair case</li> <li>Reputation</li> <li>Damage to reputation</li> <li>Legal ramifications/ethical considerations</li> </ul>
2.4 Describe the establishment of a copyright, trademark, or trade name	<ul> <li>Establishment</li> <li>Duration</li> <li>Expiration of copyright</li> <li>USPTO</li> <li>Legal Protection</li> <li>Intellectual property</li> </ul>

