Instructional Framework

Digital Photography

10.0200.50

Domain 1: Production Instructional Time: 55-60%	
STANDARD 6.0 APPLY THE ELEMENTS AND PRINCIPLES OF DESIGN AND COMPOSITION	
6.1 Incorporate the elements of design (e.g., line, shape, form, texture, pattern, color, value, and space) when composing photographs	- Elements - Line - Shape - Form - Texture - Pattern - Color - Value - Space
6.2 Incorporate principles of design (e.g., contrast, repetition, balance, movement, emphasis, harmony, proportion, and unity) when composing photographs	- Principles - Contrast - Repetition - Balance - Movement - Emphasis - Harmon - Proportion - Unity
6.3 Incorporate guidelines for composition (e.g., simplicity, framing, rule of thirds, focal point, point of view, camera angle, and symmetry)	- Composition- - Simplicity - Framing - Rule Of Thirds - Focal Point - Point Of View - Camera Angle - Balance (symmetry asymmetry) - Elements - Line - Shape - Form - Texture - Pattern - Color

	● Value
	● Space
	● Principles:
	  ○ Balance
	  ○ Emphasis
	  ○ Contrast, etc

6.4 Communicate a specific idea through the subject matter and the composition of a photograph	● Composition ● Elements and Principles of design ● Color psychology ● Lighting ● Content, mood, and meaning ● Theme ● Visual Literacy

6.5 Use critical thinking skills to describe, interpret, analyze, and make judgments about composition	● Critique process- describe, analyze, interpret, judge
	  ○ Composition
	  ○ Elements and Principles of design
	  ○ Color psychology
	  ○ Lighting
	  ○ Content, mood, and meaning
	  ○ Theme
	  ○ Visual Literacy

6.6 Define basic color schemes (e.g., complementary, analogous, triadic, tetradic, split complementary, monochromatic, and grayscale)	● Color schemes & color wheel:
	  ○ Warm and cool colors
	  ○ Complementary
	  ○ Analogous
	  ○ Primary, secondary, tertiary
	  ○ Monochromatic
	● Additive and subtractive color models

6.7 Analyze the psychology and theory of color in images to increase visual literacy	● Color psychology
	  ○ Cultural context (color meanings)
	  ○ Mood

6.8 Utilize posing techniques and product arrangement for visual impact (i.e., portraits, fashion, product, etc.)	● Lighting--natural and artificial, modifiers, etc ● Posing ● Location ● Lenses ● Composition
STANDARD 7.0 DEMONSTRATE PROPER EXPOSURE SETTINGS TO ACHIEVE DESIRED OUTCOMES	
7.1 Describe the basic elements of exposure (e.g., ISO, aperture, and shutter	● Exposure Triangle:

speed)	○ ISO, aperture, and shutter speed ○ Related camera functions
7.2 Utilize appropriate shutter speed to create panned, blurred, and stop action photos	● Shutter speed, panning, blur motion, stop (freeze) action
7.3 Apply the appropriate aperture setting for deep or shallow depth of field	● Aperture, f-stops, shallow depth of field, great depth of field
7.4 List the factors that affect depth of field (e.g., aperture, focal length, and distance to subject)	● Aperture, focal length, and distance to subject ● Secondary consideration ○ Sensor Size
7.5 Apply the appropriate ISO settings for various lighting conditions	● ISO ● Noise (grain) ● Sensor quality
7.6 Calculate exposure equivalents	● Equivalent exposure, aperture, shutter speed, ISO ● Full stop, half stop, third stop
7.7 Utilize in-camera light meter to guide desired exposure	● TTL meter, aperture, shutter speed, TV mode, AV mode, Program mode
7.8 Discuss various in-camera metering modes (i.e., spot, partial, evaluative, center-weighted, matrix, etc.)	● Matrix, Evaluative, spot (partial) metering, center-weighted
7.9 Evaluate a histogram	● Histogram ○ Pure Black ○ Pure White ○ Highlights ○ Shadows ○ Gray-scale ○ Clipping
7.10 Discuss active focus points and focusing modes (i.e., AI Servo, single, continuous, 3-D, etc.)	● AI Serve ● Single ● Continuous ● 3-D ● Auto focus (AF) ● Manual focus (MF)

7.11 Discuss exposure modes (e.g., aperture priority, shutter priority, manual, automatic, program, bulb, and pre programmed automatic settings)	- Aperture priority (AV) - Shutter priority (TV or S) - Manual (M), automatic - Program (P) - Bulb (B) - Pre programmed automatic settings

STANDARD 8.0 DEMONSTRATE PROPER LIGHTING TECHNIQUES TO ACHIEVE DESIRED OUTCOMES

8.1 Identify additive colors (RGB – red, green, and blue) and subtractive colors (CMYK – cyan, magenta, yellow, and black/key)	- Additive colors (RGB – red, green, and blue) - Subtractive colors (CMYK – cyan, magenta, yellow, and black/key) - Print vs Digital
8.2 Explore color spaces (e.g., RGB, CMYK, grayscale, L*a*b, Adobe RGB, sRGB, and ProPhoto)	- RGB, CMYK, grayscale, L*a*b, Adobe RGB, sRGB, and ProPhoto - Color Calibration
8.3 Explain the importance of "quality of light" (e.g., hard or soft light, fall-off, and color temperature)	- Lighting modifiers - Softbox - Reflector - Diffuser, etc - Lighting Qualities - Indirect, direct - Hard - Natural - Artificial - Fall-off - Color temperature, etc.
8.4 Explain key/main, fill, back, hair, and rim light	- Key/main - Fill - Back - Hair light - Rim light - Lighting modifiers - Lighting ratios
8.5 Demonstrate traditional studio portrait lighting set-ups (e.g., split, loop, Rembrandt, butterfly/Paramount, short, and broad)	- Lighting patterns - Rembrandt, - Split - Paramount - Loop

	○ Rim ○ Butterfly ○ Broad ○ Short ○ 3-point lighting

8.6 Utilize natural/ambient light (e.g., direct, indirect, reflective, and diffused)	● Lighting modifiers
	   ○ Softbox
	   ○ Reflector
	   ○ Diffuser, etc
	● LIghting Qualities
	   ○ Indirect
	   ○ Direct
	   ○ Hard
	   ○ Artificial
	   ○ Natural, etc

8.7 Describe how environmental conditions affect the quality of light and its effects on the subject	● Lighting Qualities
	   ○ Indirect
	   ○ Direct
	   ○ Hard
	   ○ Artificial
	   ○ Natural, etc
	● Location scouting
	   ○ Weather conditions
	   ○ Time of day: Golden hour, best/worst time to shoot

8.8 Utilize artificial light sources (e.g., flash, strobes, LEDs, and fluorescent)	● Artificial Light (Studio)
	   ○ Flash
	   ○ Strobes
	   ○ Speedlights
	   ○ LEDs
	   ○ Tungsten
	   ○ Fluorescent

8.9 Utilize light modifiers (i.e., reflector, umbrellas, soft boxes, grids, honeycombs, gels, etc.) to adjust the quality of light	● Reflector, ● Umbrellas ● Soft Boxes ● Grids ● Honeycombs ● Gels ● Barn Doors

	● Gobo ● Snoot, etc.

8.10 Balance natural/ambient light and artificial light sources	● Field light modifiers
	    ○ Reflectors
	    ○ Flags/cutters
	    ○ Scrims, etc.
	● Light intensity
	● Speed light
	● Light meter

8.11 Use handheld light meter	● Light meters ● Sync ● Reflective ● Channel ● Exposure settings
8.12 Explain correct sync speed	● Sync speed ● Channels ● Troubleshoot sync speed issues
Domain 2 Equipment and Photo Management 20-25%	

Domain 2: Equipment and Photo Management
Instructional Time: 20-25%

STANDARD 5.0 MANAGE PHOTOGRAPHIC EQUIPMENT AND SOFTWARE	

5.1 Demonstrate proper maintenance and care of equipment (i.e., computers, storage devices, printers, peripherals, cameras, input devices, etc.)	● Appropriate handling
	● Camera parts
	● Equipment maintenance
	    ○ Cameras
	    ○ Lenses
	    ○ Printers, etc.
	● Equipment safety
	● Lens cloths
	● Troubleshooting
	● Studio bulb handling and replacement

5.2 Identify threats to technological devices and computer system networks (i.e., viruses, data breaches, phishing, pirating, etc.)	● Threats
	    ○ Viruses
	    ○ Data Breaches

	○ Phishing ○ Pirating, etc. ● Equipment safety ● Cyber security ● Firewall
5.3 Utilize software to meet requirements of final product (i.e., page layout, photo manipulation, illustration, etc.)	● Layout consideration ○ Appropriate Software ○ White Space ○ Use of text/graphics, etc. ● Web display ● File types ● DPI, PPI ● Monitor calibration
5.4 Apply effective digital file management techniques (e.g., data capture, file transfer, file naming, organization, storage, and backup)	● Digital workflow ○ Data Capture ○ File Transfer ○ File Naming ○ Organization ○ Storage ○ Backup ● Difference between internet and intranet ● File transfer protocol (FTP) ● Upload and download
5.5 Differentiate among file formats based on compatibility, file size, resolution, color gamut, and medium (i.e., JPG, TIFF, RAW, PSD, PDF, INDD, AI, GIF, PNG, etc.)	● File formats ○ RAW ○ psd ○ tiff, etc. ● Appropriate use of file formats for output ● File type qualities ○ Advantages and disadvantages--size ○ Quality (lossless vs lossy), etc. ● Client needs ● Appropriate use of file formats for output
5.6 Apply effective use of menus, buttons, and functions of digital cameras	● Aperture, shutter, ISO ● Shooting modes ● Focus modes

	● Light meter ● White balance ● Format ● Hot shoe

5.7 Differentiate among types and uses of digital cameras, equipment, and accessories (i.e., point-and-shoot, mirrorless, DSLR, lenses, filters, tripods, lighting equipment, etc.)	● Camera types
	   ○ Large
	   ○ Medium formats
	   ○ DSLRs, etc
	● Appropriate handling
	● Lenses
	● External flash
	   Remote triggers
	● Exposure modes
	● Camera parts

5.8 Select appropriate resolution, compression, and format for data capture	● Edit image in photo editing application ● Resolution ● Crop, color balance, etc. ● (lossless vs lossy)
5.9 Explain the importance of an industry standard color management system	● Color profiles ● ICC
STANDARD 9.0 IMPLEMENT DIGITAL WORKFLOW PROCESSES	

9.1 Demonstrate digital image input (i.e., camera cards, wireless, tethered, direct download, etc.)	● Input technique
	   ○ Camera Cards
	   ○ Wireless
	   ○ Tethered
	   ○ Scanning direct download, etc.)
	● Upload/Download Files
	● Input devices
	   ○ Scanner
	   ○ Camera
	   ○ Keyboard
	   ○ Tablet, etc.
	● Archive

9.2 Evaluate metadata	● Time, Date ● Exposure data

	● GPS ● Keyword ● Author ● EXIF ● Lens type/correction
9.3 Apply keywords to images	● Workflow ● Metadata ● Keyword ● Organization ● Sorting
9.4 Demonstrate nondestructive editing techniques	● Layers, masking techniques, smart objects, etc ● Destructive vs nondestructive editing ● Nondestructive editing software (e.g. Lightroom, Camera RAW, etc.)

9.5 Apply image adjustments (e.g., sizing, cropping, retouching, orientation, and resolution adjustment)	● Tools, Adjustments and adjustment layers
	  ○ Spot healing, clone, red eye, etc
	  ○ Sizing, cropping, ratios, retouching, orientation, and resolution adjustment
	  ○ levels, contrast, filters, etc.

9.6 Apply color correction (i.e., white balance, saturation, hue, luminance, etc.)	● White balance ● Saturation ● Hue ● Luminance ● Levels etc. ● Adjustments and adjustment layers
9.7 Explain the benefits of batch processing	● Workflow ● Time management ● Naming and sequence protocols ● File formats ● Archiving

9.8 Export images for final output	● Deliverable files
	  ○ Printing-.TIFF
	  ○ General delivery-.JPG
	  ○ Publications-.PDF
	● Appropriate use of file formats for output

	● File format pros/cons
9.9 Mount, matte, and frame a print	● Mount, matte, frame, and prep for hanging ● Basic measuring skills ● Visual center vs actual center

Domain 3: Photography Culture
Instructional Time: 10-15%

STANDARD 4.0 ANALYZE THE DIGITAL PHOTOGRAPHY PROFESSION	
4.1 Identify art movements that have impacted the photography profession	● Pictorialism ● Photo-Succession ● Surrealism ● Pop culture ● Abstraction

4.2 Research technologies that have impacted the Digital Photography profession (i.e., smart phone cameras, etc.)	● History evolution
	  ○ Silver plates
	  ○ Wet Plates
	  ○ Film
	  ○ Digital
	● Mass consumption availability

4.3 Describe photography's influence on society	● New Media ● Photojournalism

4.4 Differentiate among photographic genres and styles (i.e., portrait, landscape, macro, street, editorial, sports, journalistic, architectural, fine art, commercial, life-style, events, etc.)	● Genres
	  ○ Landscape
	  ○ Portrait
	  ○ Fashion
	  ○ Documentary
	  ○ War
	  ○ Travel

4.5 Examine the role and cultural significance of photographers	● Inventors
	  ○ Joseph Niepce
	  ○ Louis Daguerre

	○ Henry William Fox Talbot ○ George Eastma ○ Edwin Land - Historic Photographers: ○ Ansel Adams ○ Alfred Stieglitz ○ Henri Cartier-Bresson, ○ Edweard Muybridge ○ Dorothea Lange ○ Mathew Brady ○ Robert Capa - Contemporary Photographers ○ Diane Arbus ○ Annie Leibovitz ○ Richard Avedon ○ Jerry Uelsmann ○ Cindy Sherman
4.6 Describe past and present graphic design styles and trends	- Modernism - Art Deco - Pop Art - Realism - Surrealism
4.7 Research how demographic and cultural awareness influence photographic decisions	- Cultural, ethnic and multigenerational awareness - Client interactions - Target audience
4.8 Identify components required in establishing a freelance business (i.e., taxes, contracts, expenses, billing, licenses, etc.)	- Target client/market - Budget - Legal forms: Quotes, contracts, etc. - Professional communication - Branding: logos, advertising, business cards - Pricing formulas and sheets, cost analysis - Business licence/LLC
Domain 4: Business and Industry **Instructional Time: 5-10%**	

STANDARD 1.0 ANALYZE THE COMMUNICATION MEDIA TECHNOLOGIES INDUSTRY, ITS BUSINESS PRACTICES, AND ITS ROLE IN THE ECONOMY	
1.1 Investigate the history and evolution of the Communication Media Technologies industry (i.e., technology, processes, production, etc.)	● History evolution 　○ Silver plates 　○ Wet Plates 　○ Film 　○ Digital ● Genres: Landscape 　○ Portrait 　○ Fashion 　○ Documentary, etc
1.2 Examine the impact of social media and emerging technologies on the Communication Media Technologies industry	● Impact and use of social media platforms ● Ethical responsibility
1.3 Research the societal and economic impact of the Communication Media Technologies industry	● Credible media sources ● Branding and advertisement ● Social media, photojournalism, fine art, etc.
1.4 Examine the impact of the Communication Media Technologies Industry on marketing practices	● Customer service ● High quality products ● Competitive pricing ● Business cycle (off/on season)
1.5 Explain how diversity and inclusion are managed in the workplace to create a supportive culture	● Cultural, ethnic and multigenerational awareness and sensitivity ● Professionalism ● Workplace benefits of Inclusivity and diversity
1.6 Define cultural diversity and the need for awareness and sensitivity in the workplace	● Cultural, ethnic and multigenerational awareness ● Professionalism ● Workplace benefits of Inclusivity and diversity
1.7 Explain the acceptance of multiculturalism in the workplace (i.e., treating impartially and fairly each ethnic group, etc.)	● Cultural, ethnic and multigenerational awareness ● Professionalism ● Workplace benefits of Inclusivity and diversity
1.8 Analyze customer service practices appropriate to the Communication Media Technologies industry	● Customer surveys/reviews ● Social media and advertising algorithms ● Professional communication
1.9 Examine time management practices appropriate to the Communication Media Technologies industry	● Workplace professionalism ● Shoot scheduling

	● Deadlines ● Workflow ● Collaboration tools: online calendars, call sheets, etc.
1.10 Identify professions that comprise the Communication Media Technologies industry (i.e., animation, broadcasting, filmmaking, graphic design, illustration, music and audio productions, photography, printing, publishing, etc.)	● Animation, ● Broadcasting, ● Filmmaking, Graphic ● Design, Illustration ● Music And Audio Productions ● Photography ● Printing ● Publishing, Etc.
1.11 Comply with the safety standards and regulations specific to OSHA	● Equipment safety ● Cyber security ● OSHA

STANDARD 2.0 ANALYZE ETHICAL AND LEGAL ISSUES RELATED TO THE COMMUNICATION MEDIA TECHNOLOGIES INDUSTRY

2.1 Distinguish among copyright, intellectual property, and proprietary rights	● Copyright process ● Patent ● Trademark ● Plagiarism ● Lawsuit, royalties, etc ● Fair use ● Public domain
2.2 Investigate copyright, intellectual property, proprietary rights, plagiarism, and software licensure	● Copyright process ● Patent ● Trademark ● Plagiarism ● Lawsuit, royalties, etc ● Fair use ● Public domain
2.3 Discuss consequences in violating copyright, privacy, and data security laws (i.e., monetary penalties, prison, injunctions, financial restitution, etc.)	● Watermark ● trademark ● Copyright ● Fair Use ● Public domain ● Lawsuit ● Consequences ○ Monetary penalties

	○ Prison
	○ Injunctions
	○ Financial restitution, etc
2.4 Explain fair use (i.e., authorships, credit lines, parody, news reporting, criticism and commentary, etc.)	● Authorships ● Credit lines ● Parody ● News reporting ● Criticism ● Commentary, etc.
2.5 Differentiate between legal and ethical standards as they apply to decision-making in the Communication Media Technologies industry	● Copyright ● Plagiarism ● Ethical responsibility
2.6 Explain libel, privacy, censorship, and first amendment rights	● Copyright ● Plagiarism ● Freedom of speech ● Freedom of the press ● Case law
2.7 Explain the difference and usage of release forms (e.g., model, minor, and property)	● Components and use of release forms ● Model, minor, and property

STANDARD 3.0 ANALYZE FACTORS THAT CONTRIBUTE TO PERSONAL SUCCESS IN THE COMMUNICATION MEDIA TECHNOLOGIES INDUSTRY

3.1 Employ written, verbal, and non-verbal communications that are appropriate to the target audience and situation	● Appropriate word choice ● Grammar, spelling, punctuation, etc. ● Professionalism
3.2 Apply formatting, editing, and proofreading skills to all forms of writing	● Appropriate word choice ● Grammar, spelling, punctuation, etc. ● Citations ● Copy editing
3.3 Prepare and deliver a presentation using terminology standard to the Communication Media Technologies industry	● Professionalism ● Industry vocabulary ● Public speaking and formal communication skills
3.4 Use interpersonal skills when communicating with colleagues, clients, and	● Active listening ● Empathy

vendors (i.e., active listening, empathy, body language, openness, negotiation, problem-solving, conflict resolution, assertiveness, positive attitude, etc.)	- Body language - Openness - Negotiation - Problem-solving, - Conflict resolution - Assertiveness, - Positive attitude, etc.
3.5 Identify professional "dress for success" standards and practices for the Communication Media Technologies industry	- Workplace professionalism - Dress - Canners - Communication
3.6 Explain basic types of résumés and their use (e.g., chronological, functional, combination, targeted, and creative)	- Chronological - Functional - Combination - Targeted, - Creative
3.7 Identify the basic parts of a résumé (e.g., contact/address section, objective, profile, career summary, experience section, education section, and reference section)	- Profile/contact information - Experience - Education - Skills - Reference format (separate sheet)
3.8 Explain considerations for résumé format (i.e., simple font; plenty of white space; personalize and customize to reflect your skills and abilities, etc.)	- Type of job - Simple font, white space, personalization, includes skills and abilities, etc. - Chronological format - Reverse chronological format - Functional format - Hybrid format
3.9 Define a professional portfolio (e.g., organized collection of relevant writing, graphics, and projects; artifacts showcasing talents and relevant skills; and summary of professional growth)	- Professional Portfolio - Organized collection - relevant writing - graphics - projects - artifacts showcasing talents - relevant skills - summary of professional growth

3.10 Describe portfolio types serving different purposes (i.e., working portfolios, display portfolios, assessment portfolios, etc.)	● Types of portfolios 　○ Working Portfolios, 　○ Display Portfolios 　○ Assessment Portfolios
3.11 Describe ways to build a professional portfolio [i.e., binder, digital (iPad), online portfolio, etc.]	● Binder, digital (iPad), online portfolio, etc. ● Critique: Peer, mentor, etc. ● Presentation