ARIZONA CTE CAREER PREPARATION STANDARDS & MEASUREMENT CRITERIA

DIGITAL PRINTING, 10.0200.20

1.0	**ANALYZE THE MEDIA INDUSTRY, ITS BUSINESS PRACTICES, AND ITS ROLE IN THE ECONOMY**
1.1	Research the role of the media industry and its impact on society and the economy
1.2	Investigate the history and evolution of media and emerging technology
1.3	Identify factors that contribute to the success of media businesses and freelance/contract providers
1.4	Examine the impact of social media on the media industry
1.5	Identify key factors to be considered in launching a media business
1.6	Examine how the relationship among marketing, sales, and production affects profitability
1.7	Describe how production processes and cycles affect media businesses
1.8	Determine costing projections for various media objectives and/or functions
1.9	Describe how diversity (cultural, ethnic, multigenerational) and ethics affect the selection of projects and programs
1.10	Describe how ethics, hype, and content influence media products
1.11	Identify industry safety standards
1.12	Describe multiple distribution platforms that are in compliance with the American Disability Act
2.0	**INVESTIGATE INTELLECTUAL PROPERTY LAW AND RIGHTS MANAGEMENT**
2.1	Identify current legal issues in media professions
2.2	Explain plagiarism and its effects in business
2.3	Define the establishment of a copyright
2.4	Discuss rights and implications of copyright law
2.5	Examine intellectual property law and its ramifications
2.6	Explain the establishment of a trade name and trademark
2.7	Explain fair use in relation to legal and regulatory considerations
3.0	**DEMONSTRATE VERBAL AND NONVERBAL COMMUNICATION SKILLS REQUIRED BY THE MEDIA INDUSTRY**
3.1	Use industry terminology appropriately in the work environment

3.2	Use effective communication techniques to obtain accurate information from sources, audiences, and clients
3.3	Practice verbal and nonverbal communication skills with people of diverse cultures, generations, and situations
3.4	Practice active listening skills appropriate to the medium/media
4.0	**DEMONSTRATE WRITTEN COMMUNICATION SKILLS REQUIRED BY THE MEDIA INDUSTRY**
4.1	Use professional etiquette for web-, email-, and social-media-based communications
4.2	Conduct formal and informal research to collect information
4.3	Verify the accuracy of information
4.4	Verify the authority of sources
4.5	Identify the purpose, content, and audience for communications
4.6	Select the appropriate medium/media for distribution of communications
4.7	Format communications for the purpose, audience, and medium/media
4.8	Use editing skills when reviewing communications
4.9	Use proofing skills and check the spelling when reviewing communications
5.0	**UTILIZE COMPUTER APPLICATIONS TO MANAGE MEDIA**
5.1	Use appropriate electronic publishing software and output devices
5.2	Apply essential commands and knowledge of computer operating systems
5.3	Apply computer file management techniques
5.4	Use the Internet for file transfer
5.5	Select the format for digital delivery
5.6	Use and care for equipment and related accessories
5.7	Describe the functionality of the internet, intranet, and extranet in the media environment
5.8	Explain methods of protecting a computer against computer threats
6.0	**APPLY KNOWLEDGE OF DATA CAPTURE AND MANIPULATION**
6.1	Identify software that supports data capture for media devices (i.e., digital camera, video input device, graphics tablet, graphics expansion boards)
6.2	Select appropriate resolutions for data capture

6.3	Capture and transfer still image, audio, and moving image content
6.4	Archive and manage data for media applications
7.0	**ENGAGE IN PRE-PRODUCTION/PLANNING PHASE OF PRODUCT CREATION IN DIGITAL PRODUCTION PRINTING**
7.1	Define the market sectors of Print and how some of the products can be used in cross media for business and industry (e.g., magazines that use QR Codes to connect with interactive web sites)
7.2	Identify the prepress software applications used in digital file preparation for print to include page layout, image creation, image manipulation, imposition, and pre-flight
7.3	Understand portable document format (PDF) workflow from design to generating the image carrier needed to print on either digital or analog presses
7.4	Identify the different image carriers used for the major printing processes to include right reading and wrong reading image transfer for analog presses
7.5	Describe additive color theory for making digital files or printing plates
7.6	Describe subtractive color theory used in process color printing
7.7	Differentiate between the color gamuts: RGB, CMYK, Spot Color, grayscale and hex color, and explain how they relate to printing versus the Internet and web applications
7.8	Demonstrate an understanding of the differences between vector and raster images and the different file formats used in prepress production
7.9	Explain image trapping and why it is necessary for image registration on the printing press
7.10	Present a workflow outline for a project from start to finish on both digital and analog presses
7.11	Explain the purpose of proofing and the difference between hard and soft proofs
7.12	Describe the six major printing processes used in industry and give advantages and disadvantages to each of the following processes: offset lithography, gravure, flexography, screen printing, digital, and inkjet
7.13	List examples of the products typically produced by each of the major printing processes
7.14	Understand and interpret production information on a job ticket for print production
7.15	Plan and prepare an offset plate using digital equipment
7.16	Describe the differences between static digital printing and variable data digital printing
7.17	Select the appropriate paper for a job, including analyzing parent sizes, environmental concerns, grades and classes and reading a paper swatch
7.18	Describe web-to-print technology with the submission of a client's print job through a web browser portal
8.0	**IMPLEMENT PLAN(S) FOR ACQUIRING OR CREATING A PRODUCT IN ACCORDANCE WITH PRODUCTION PHASE TASKS IN DIGITAL PRODUCTION PRINTING**
8.1	Demonstrate basic safety procedures when running the press, such as removing jewelry, tying long hair back, etc.
8.2	Identify and make operational the basic press systems for the different printing processes, to include the six basic systems for offset lithography: feeder, registration, main printing unit, dampening, inking, and delivery
8.3	Register all image elements and obtain the correct ink density during the press operation

8.4	Produce single and multi-color projects
8.5	Demonstrate a working knowledge of the color bars, the densitometer, and other quality control targets and procedures
8.6	Queue a job to the RIP and print the required number of impressions per the job ticket and for a specific operating system, a print driver, and digital printing press
8.7	Use a commercial personalization and database software application to create a variable data printing job
8.8	Demonstrate safe use of solvents, chemicals, and proper housekeeping practices for a safe work environment
8.9	Demonstrate environmental considerations to include recycling paper waste and using proper disposal of inks and solvents
8.10	Locate and interpret Material Safety Data Sheets (MSDS)
8.11	Clean press after production and preform necessary maintenance to keep the presses operational
9.0	**PERFORM TASKS IN POST-PRODUCTION PHASE OF PRODUCT REFINEMENT IN DIGITAL PRODUCTION PRINTING**
9.1	Calculate paper cuts, and (if possible) program a paper cutter to trim a printed job
9.2	Perform bindery operation(s) per production requirements on the job ticket, to include folding, stitching, collating, drilling, padding, embossing, trimming, and creasing
9.3	Demonstrate how a product benefits from utilizing cross media including variable data digital printing, QR Codes that drive the consumer to an Internet website using mobile cell phones, and Augmented Reality (AR)
9.4	Collect samples of all production work, prepare billing statements using trade customs, and archive or database all customer files for future production or reruns.
10.0	**DELIVER/DISTRIBUTE PRODUCT(S) USING VARIOUS MEDIA IN ACCORDANCE WITH CONSUMER EXPECTATIONS IN DIGITAL PRODUCTION PRINTING**
10.1	Create Quick Response Codes (QR codes) using commercial applications to connect the print job to an interactive web site that may include video
10.2	Use commercial software to create Personal URL's (PURL's) that create a marketing campaign for a client
10.3	Print appropriate mail codes (Barcodes) or work with the US Postal Service to organize bulk mailing
10.4	Package a file for future printing, to include fonts and necessary color correction
10.5	Produce a car wrap, door wrap, etc., using ink jet technology or print textile shirts using screen printing
10.6	Describe production of printable electronics using gallium diodes for sources of illumination or RFID codes to track customer products
11.0	**MONITOR QUALITY ASSURANCE OF PRODUCT CREATION CONCURRENT WITH ALL PHASES OF PRODUCTION IN DIGITAL PRODUCTION PRINTING**
11.1	Conduct color and production evaluations with customers prior to the production run, secure signature approvals of clients, and sequentially retain all correction data
11.2	Review a project workflow after completion and determine areas of improvement
12.0	**PRESENT PRODUCT(S) TO SELECTED AUDIENCE(S) USING MEDIA IN DIGITAL PRODUCTION PRINTING**
12.1	Describe why print is no longer a commodity, but rather a personalized product that delivers value to clients through variable data printing that has multiple touch points

12.2	Demonstrate the use of QR codes on a printed product like a brochure that takes the audience to an interactive website
12.3	Demonstrate Google Analytics related to a marketing campaign that involves, variable data print, PURLs, QR codes, and the customer's Interactive Website
12.4	Print Radio Frequency Identification Codes (RFID) to demonstrate inventory control or tracking of products