

Florida CTE

Arts, A/V Technology & Communications (2021): Digital Media/Multimedia Design

Adopted 2021

**Digital
Media/Multimedia
Design (K100200)**

Theory and Foundations of Design – Course Number: DIG0081

0. Demonstrate knowledge of presentation production issues. The student will be able to: 01.0
 01. Identify characteristics of design for digital media (e.g., web, animation, video, and audio). 01.01
 02. Identify presentation materials (slides/handouts) and presentation marketing formats (e.g., social media, print media, newspaper, billboards, posters, magazines, television, movies, computer presentations, web banners, advertisements and webpages). 01.02
 03. Identify design characteristics (e.g., fonts, size, color modes, backgrounds) that are suited for each type of design format and material. 01.03
 04. Demonstrate knowledge of design theory such as hierarchy, design composition, color theory, typography, balance, repetition, etc. 01.04
 05. Demonstrate knowledge of copyright laws (e.g., copyright statutes, disclaimers, and filing procedures). 01.05
 06. Research and identify job titles and skills needed for career positions in multimedia design using information from the U.S. Bureau of Labor Statistics (www.bls.gov). 01.06
 07. Demonstrate understanding of multimedia file formats (e.g., EPS, PDF, TIFF, JPEG, PNG, ASCII, MPEG, MIDI, AVI, WAV) and knowledge of image size when scanning and saving files for use in different design types (print, web, computer, television, mobile devices). 01.07
 08. Demonstrate knowledge of presentation vocabulary and terms. 01.08
0. Demonstrate basic computer knowledge. The student will be able to: 02.0
 01. Identify basic computer components (e.g., CPU, monitor, keyboard, and resolution). 02.01
 02. Demonstrate understanding of computer specifications. 02.02
 03. Demonstrate best practices of computer safety and ergonomics. 02.03
 04. Demonstrate knowledge of computer operating systems and platforms. 02.04
 05. Demonstrate use of internal and external drives/storage and data backup. 02.05
 06. Identify possible software and hardware malfunctions and perform basic troubleshooting operations. 02.06
 07. Identify characteristics of software for print, photography, web, animation, video and audio. 02.07
0. Demonstrate knowledge of still images and time-based media production. The student will be able to: 03.0
 01. Demonstrate knowledge of digital camera types for capturing stills and video. 03.01
 02. Demonstrate knowledge of digital photography composition and time-based media. 03.02

03. Demonstrate knowledge of digital camera supports (e.g., tripod, grips, and holds). 03.03
 04. Identify parts of a digital camera (e.g., lens, sensor, and battery). 03.04
 05. Understand digital camera menus and navigation. 03.05
 06. Demonstrate knowledge of auto modes and settings (e.g., F-stops, speed, and ISO). 03.06
 07. Demonstrate knowledge of manual modes and settings (e.g., F-stops, speed, and ISO). 03.07
 08. Demonstrate understanding of white balance and lighting. 03.08
 09. Demonstrate proper care, use, and storage of digital cameras. 03.09
 10. Create both a digital and printed portfolio. 03.10
0. Demonstrate knowledge of photo and time-based editing software. The student will be able to: 04.0
01. Demonstrate understanding of file formats and storage options. 04.01
 02. Identify the parts of the software interface. 04.02
 03. Demonstrate the ability to use each of the basic tool sets. 04.03
 04. Demonstrate the ability to import, export and save images. 04.04
 05. Demonstrate understanding of layers and channels. 04.05
 06. Demonstrate understanding of filters, effects and plug-ins. 04.06
 07. Demonstrate understanding of file presets. 04.07
 08. Demonstrate the ability to select portions of an image for manipulation. 04.08
 09. Demonstrate the ability to transform selections and images (crop and scale). 04.09
 10. Demonstrate the ability to color-correct images (brightness, hue, and contrast). 04.10
 11. Demonstrate the ability to use tools for image creation and correction. 04.11
 12. Understand non-destructive and destructive operations. 04.12
 13. Develop an awareness to import, paint and export 3D objects and/or Virtual Reality Objects. 04.13
 14. Demonstrate the basic uses of video in photo editing software. 04.14
 15. Plan and develop raster graphic to meet project needs through a formal RFP (request for proposal). 04.15

Multimedia Digital Designer – Course Number: DIG0082

0. Demonstrate proficiency in advanced design. The student will be able to: 05.00
 01. Demonstrate knowledge of advanced design. 05.01
 02. Identify design strategies to reach the intended audience. 05.02
 03. Use storyboarding or sketches to plan a design. 05.03
 04. Create formal or informal design layouts using guidelines, colors, fonts, graphics and logos. 05.04
 05. Demonstrate use of authoring software integration. 05.05
 06. Identify compatibility formats (extensions) for authoring software integration. 05.06

0. Demonstrate understanding of color modes. The student will be able to: 06.00
 01. Demonstrate knowledge of the color process for printing purposes. 06.01
 02. Demonstrate knowledge of color conversion from display to print. 06.02
 03. Demonstrate knowledge of spot colors. 06.03
 04. Demonstrate knowledge of web-safe colors. 06.04
 05. Explain color mode differences (e.g., RGB, CMYK, and HSB). 06.05
 06. Understand accessing color modes from authoring software. 06.06

0. Identify key animation principles (e.g., momentum, overshoot, bounce, etc.). The student will be able to: 07.00
 01. Demonstrate knowledge of stop motion and roto-scoping. 07.01
 02. Demonstrate knowledge of time remapping. 07.02

0. Demonstrate proficiency in using fonts for advanced design. The student will be able to: 08.00
 01. Identify serif and sans-serif fonts. 08.01
 02. Demonstrate knowledge of conversion of fonts to outlines. 08.02
 03. Understand the proprietary copyrights of fonts. 08.03
 04. Demonstrate knowledge of standard font formats (e.g., TrueType, PostScript, and OpenType). 08.04
 05. Design and develop a print and/or digital portfolio (e.g., business cards, posters, billboards, magazines, and brochures). 08.05

0. Demonstrate proficiency in using illustration software. The student will be able to: 09.00
 01. Evaluate industry standard illustration software packages. 09.01
 02. Identify characteristics of vector and bitmap images. 09.02
 03. Demonstrate understanding of the software workspace and navigation (e.g., views, tabs, and zoom). 09.03

04. Demonstrate use of drawing tools to create, combine and edit basic shapes. 09.04
05. Demonstrate the ability to transform content (e.g., scale, rotation, and position). 09.05
06. Demonstrate understanding of Bezier curve and the appropriate tools for manipulation (e.g., direct select, convert anchor point, pen tool, pencil tool, etc.). 09.06
07. Demonstrate use of color and painting tools (e.g., patterns, gradients, and color palettes). 09.07
08. Demonstrate the ability to work with type (e.g., formatting, font palette, character panels, and paths). 09.08
09. Demonstrate use of layers by creating, locking, viewing, pasting, and merging. 09.09
10. Demonstrate use of blending (gradients and objects). 09.10
11. Demonstrate use of brushes; download new brushes. 09.11
12. Explore file exporting options and round-trip workflows with page layout software. 09.12
13. Demonstrate knowledge of bleed for vector and bitmap design software. 09.13
14. Plan and develop vector graphic to meet project needs through a formal RFP (request for proposal). 09.14
0. Demonstrate knowledge of design layout software. The student will be able to: 10.0
 01. Identify parts of the software interface. 10.01
 02. Demonstrate the ability to customize and navigate the workspace. 10.02
 03. Demonstrate understanding of pre-flighting. 10.03
 04. Work with styles, graphics and objects in a design. 10.04
 05. Set up a document and manage pages within document. 10.05
 06. Demonstrate use of layers, text frames and graphic frames. 10.06
 07. Determine the appropriate use of grids, columns, margins, and bleed. 10.07
 08. Demonstrate the ability to align, transform and group objects. 10.08
 09. Understand typography and text editing. 10.09
 10. Demonstrate understanding of color (e.g., applying, gradients, tint, spot, and management). 10.10
 11. Import and modify graphics (e.g., links, vector/bitmap images, quality, and alpha channels). 10.11
 12. Understand output and exporting functions (e.g., proofs, separations, and prepress). 10.12
0. Demonstrate proficiency in using presentation software and equipment to produce a complex presentation. The student will be able to: 11.0

01. Using authoring/editing software, create a multimedia presentation that incorporates custom raster graphics, vector graphics, typography, color and shapes and good design principles. 11.01
 02. Demonstrate knowledge of the roles and responsibilities of a multimedia production team (e.g., project manager, creative or design director, content experts, writers, graphic designers, animators, sound designers, videographers, and interface designers/programmers). 11.02
0. Develop proficiency in using authoring software. The student will be able to: 12.0
 01. Plan and develop media to meet project needs through a formal RFP (request for proposal). 12.01
 02. Present project for evaluation and make modifications to improve the project. 12.02

Multimedia Web Interactive Designer – Course Number: DIG0083

0. Demonstrate proficiency in preliminary webpage design. The student will be able to: 13.0
 01. Determine the objectives and the audience for webpages. 13.01
 02. Identify design strategies to reach and keep an audience. 13.02
 03. Use storyboarding to plan a website. 13.03
 04. Identify styles and other design elements (e.g., backgrounds, colors, fonts, and buttons). 13.04
0. Demonstrate understanding of HTML and CSS. The student will be able to: 14.0
 01. Interpret HTML coding to identify the structure of an existing webpage 14.01
 02. Develop HTML coding to write a webpage. 14.02
 03. Demonstrate understanding of Cascading Style Sheets (CSS) on an existing webpage. 14.03
 04. Demonstrate compliance with ADA recommendations for all websites created. 14.04
 05. Utilize markup validity to ensure compliance with the W3C for all websites created. 14.05
0. Demonstrate proficiency in authoring software for webpage design. The student will be able to: 15.0
 01. Demonstrate understanding of photograph compression factors such as transmission speed, color reduction, and browser support. 15.01
 02. Save and export a photograph to the web in the best format for image quality and file size. 15.02
 03. Demonstrate knowledge of image formats related to photos and graphics on the Internet. 15.03
 04. Demonstrate understanding of pixels for web design. 15.04
 05. Create webpages for publication. 15.05
 06. Apply style sheets for consistent website design. 15.06
 07. Format text for webpages (e.g., font families and sizes). 15.07
 08. Create and edit images and photographs for webpages using digital imaging software. 15.08
 09. Create and insert buttons into a webpage and test for accuracy. 15.09
 10. Create navigational links. 15.10
 11. Insert audio files into a webpage. 15.11
 12. Create, edit and integrate video files into a webpage. 15.12
 13. Create, edit and integrate animation files into a webpage. 15.13
 14. Create meta-commands and keywords for search engines. 15.14

15. Optimize page size for effective downloading to browsers. 15.15
16. Create and incorporate a form into a webpage. 15.16
17. Edit and test links for accuracy and validity. 15.17
18. Create several webpages for a portfolio. 15.18
0. Demonstrate knowledge of social media. Student will be able to: 16.0
 01. Identify design strategies to reach and keep a target audience. 16.01
 02. Demonstrate an understanding of various social media algorithms. 16.02
 03. Design and publish images on various social media platforms. 16.03
 04. Storyboard and publish animations on various social media platforms. 16.04
 05. Storyboard and publish short video clips to reach a target audience. 16.05

Multimedia Integrated Producer Designer – Course Number: DIG0084

0. Demonstrate proficiency using time-based media editing software and equipment. The student will be able to: **17.0**
 01. Demonstrate knowledge of non-linear editing software. **17.01**
 02. Identify components of non-linear video editing equipment. **17.02**
 03. Set up non-linear video editing equipment. **17.03**
 04. Use storyboarding to plan a short non-linear video project that includes existing video footage with a title, transitions, background sound, voice-over, animation, and rolling credits. **17.04**
 05. Use time-based media editing software to create and edit a movie that includes video footage with a title, transitions, Foley audio and rolling credits and output to video. **17.05**
 06. Collaborate with team members to plan, edit, and shoot video footage utilizing advanced video editing techniques and output to video. **17.06**
 07. Discuss the use of batch processing and project trimming. **17.07**
 08. Plan, create, edit and present a short non-linear movie with title, transitions, sub and virtual clips, sound, background music, voice-over, and credits. **17.08**
 0. Identify broad range of roles for time-based media production. The student will be able to: **18.0**
 01. Collaborate with team members to plan, edit, evaluate, and present a multimedia presentation or product. **18.01**
 0. Demonstrate proficiency using all media to create a promotional campaign. The student will be able to: **19.0**
 01. Use authoring software to plan and create a promotional campaign that includes collateral materials, digital photography, webpages, animation, video, and/or audio. **19.01**
 0. Apply job readiness, career planning and job seeking skills to meet personal and professional goals. The student will be able to: **20.0**
 01. Create a digital résumé and print it. **20.01**
 02. Create and publish a digital portfolio. **20.02**
 03. Market digital media/multimedia design skills for employment. **20.03**
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Photography Specialist – Course Number: PGY0190

0. Discuss the history of photography. The student will be able to: 01.00
 01. Discuss photography as an invention. 01.01
 02. Describe early uses of photography. 01.02
 03. Describe the mechanics of early photographic systems. 01.03
 04. Discuss the concept of photography as art. 01.04
 05. Show the concept of the "decisive moment." 01.05
 06. Identify aesthetic differences between genres of photography (e.g., pictorial, straight, and photojournalism). 01.06
 07. Demonstrate knowledge of the use and role of Digital Photography in the present. 01.07
0. Evaluate the production process. The student will be able to: 02.00
 01. Identify the job titles associated with digital photography. 02.01
 02. Identify various tools and equipment used in digital photography. 02.02
 03. Use speed and efficiency concepts (workflow). 02.03
 04. Identify the different types of photographic media and the relation to occupations in the field of Photography (e.g. photojournalism, fine art, event, headshots, family portrait, fashion, sports, magazine, publications, and product). 02.04
 05. Identify the need for industry networking and forming relationships with professionals in the field. 02.05
 06. Use basic communication concepts (e.g., verbal, memos, and paperwork and purchase orders). 02.06
 07. Identify the stages of production. 02.07
 08. Analyze photographic terms and jargon. 02.08
 09. Prepare, organize, and create presentations for clients (e.g., contact sheets and design layouts). 02.09
0. Understand intellectual property rights, copyright laws and plagiarism as each applies to creative assets. The student will be able to: 03.00
 01. Examine the limits and expectations of copyright protection. 03.01
 02. Analyze the various types of shared work in dealing with all forms of intellectual property, online as well as physical. 03.02
 03. Describe the transfer and licensing of creative work. 03.03
 04. Articulate the use of "exclusive rights" to intellectual creations. 03.04
 05. Demonstrate the use of metadata for embedding authorship within a photo. 03.05
0. Operate parts of a camera system. The student will be able to: 04.00
 01. Identify basic camera parts (e.g., lens, battery, flash, shutter and display). 04.01

02. Remove and attach standard lenses. 04.02
03. Charge and connect batteries. 04.03
04. Identify, insert and format recording media. 04.04
05. Use basic camera functions (e.g., menu settings and application of settings). 04.05
06. Set image format and size. 04.06
07. Use camera auto, program, scene and manual modes. 04.07
08. Use camera viewfinder and LCD displays for image review. 04.08
09. Use basic lens controls (auto, manual focus and zoom). 04.09
10. Use image International Standards Organization (ISO) and metering functions. 04.10
11. Set proper white balance. 04.11
12. Use shutter and aperture priority modes. 04.12
13. Set proper f-stop and shutter speeds. 04.13
14. Use camera drive modes such as delayed, multiple and remote. 04.14
15. Operate a camera mounted flash and use fill and red-eye reduction. 04.15
0. Demonstrate proper use of camera and support equipment. The student will be able to: 05.0
 01. Perform basic handholds of camera in portrait and landscape. 05.01
 02. Identify basic components of a tripod (head, sticks and spreader) and set up a tripod with a camera attached. 05.02
 03. Setup and level tripod for use in portrait and landscape. 05.03
 04. Attach camera to support equipment. 05.04
 05. Identify auxiliary support devices. 05.05
0. Take basic photographs. The student will be able to: 06.0
 01. Apply camera care and maintenance principles. 06.01
 02. Define the subject of a photograph. 06.02
 03. Identify available light sources. 06.03
 04. Demonstrate understanding of photo composition (e.g., rule of thirds, leading lines). 06.04
 05. Select an appropriate lens for subject (wide, tight, macro). 06.05
 06. Use available light to take still life, portrait, and action photographs. 06.06
 07. Create a series (picture study) of photographs around a defined subject. 06.07
0. Use photographic workflow applications. The student will be able to: 07.0
 01. Establish system requirements for workflow application software. 07.01
 02. Install and configure workflow application software. 07.02

03. Identify parts of the software interface (menus and palettes). 07.03
04. Import photographs from various media sources. 07.04
05. Define and create keyword tags for imported images. 07.05
06. Organize, rate, label and rename image collections. 07.06
07. Create and modify image metadata. 07.07
08. Perform image post-processing various editing software (e.g., crop, image selection, and image adjustments). 07.08
09. Export final images for clients. 07.09
10. Create and upload photos to online portfolio, online art sharing sites, and social media. 07.10
11. Utilize both menus and tools within the software interface. 07.11

Photographic Technician – Course Number: PGY0191

0. Develop a production plan. The student will be able to: 08.0
 - 01. Identify contract scope and work requirements when working with a client. 08.01
 - 02. Identify client needs. 08.02
 - 03. Determine distribution requirements and client deliverables. 08.03
 - 04. Identify the stages of production. 08.04
 - 05. Create basic communication concepts verbally and online. 08.05
 - 06. Develop a production schedule. 08.06
 - 07. Define roles and coordinate needed production crew. 08.07
 - 08. Evaluate the scope and use of model releases. 08.08
 - 09. Evaluate the scope and use of property releases. 08.09
 - 10. Evaluate the scope and use of liability releases. 08.10
 - 11. Identify need and use for production insurance. 08.11
 - 12. Determine and secure equipment as required per project. 08.12
0. Demonstrate knowledge of art/creative direction. The student will be able to: 09.0
 - 01. Develop overall aesthetic of a photograph based on client's needs, art direction, or brand purpose. 09.01
 - 02. Demonstrate the ability to create moods with design elements for the images. 09.02
 - 03. Describe the importance of art direction as it pertains to the message to be conveyed for the images (e.g., composite images and photography). 09.03
 - 04. Identify the use of color in art direction. 09.04
 - 05. Understand the various roles in a large production. 09.05
 - 06. Use industry standards to execute assigned tasks in a professional manner. 09.06
0. Demonstrate proficiency in computer skills. The student will be able to: 10.0
 - 01. Understand how computers function as it pertains to necessary components and software for photography. 10.01
 - 02. Understand computer performance requirements for image making software. 10.02
 - 03. Perform computer and software upgrades. 10.03
 - 04. Understand the importance of storing and backing up data and photos. 10.04
 - 05. Identify basic troubleshooting and software issues that can occur on jobs/sites. 10.05
0. Use photo editing software. The student will be able to: 11.0
 - 01. Demonstrate understanding of file formats and storage options. 11.01

02. Compare and contrast available photographic editing software. 11.02
03. Identify parts of the software interface (menus and palettes). 11.03
04. Use each of the basic tool sets. 11.04
05. Import, open files, and save, and export images. 11.05
06. Develop a file backup plan. 11.06
07. Demonstrate understanding of layers and channels. 11.07
08. Demonstrate understanding of filters, effects and plug-ins. 11.08
09. Demonstrate understanding of value and efficiency of file presets. 11.09
10. Select portions of an image for manipulation using selection tools. 11.10
11. Edit image size using edit/transform tools and cropping tools. 11.11
12. Modify and color-correct images using a combination of the following: hue/saturation, vibrance, levels, curves, and brightness/contrast. 11.12
13. Use and append brushes for image creation and adjustments. 11.13
14. Identify non-destructive and destructive operations. 11.14
15. Import edit and export raw files. 11.15
16. Demonstrate the basic uses of video. 11.16
17. Demonstrate knowledge of use for the undo / redo, history, and cache system. 11.17
18. Use keyboard shortcuts to improve efficiency. 11.18
19. Locate and effectively use the help menu system. 11.19
20. Use editing software for image altering and designing basic typography and/or text-specific art/images. 11.20
0. Use photographic lights. The student will be able to: 12.0
01. Demonstrate understanding of light (direction, intensity, color, contrast, hardness). 12.01
02. Demonstrate understanding of natural, artificial, available and ambient light sources. 12.02
03. Demonstrate understanding and use of sunlight (time of day, color temperature, color correcting, blocking and shade). 12.03
04. Use continuous lighting setups and equipment. 12.04
05. Use flash and strobe light setups and systems. 12.05
06. Use on camera and integrated camera flash systems. 12.06
07. Demonstrate understanding of three-point lighting. 12.07
08. Use a light meter. 12.08
09. Use light modifiers such as scrim, reflectors and flags. 12.09
10. Use lights on location. 12.10

0. Use photography sets, backgrounds and stages. The student will be able to: 13.0
 01. Set up backgrounds, sets, or set plans under direction or independently after dialogue with the set / creative director. 13.01
 02. Define the intended look and materials to be used. 13.02
 03. Erect background stands and hang background material. 13.03
 04. Adjust available seating for studio portraits. 13.04
 05. Safely secure all grip equipment including reflector stands, c-stand, light stands and sand bags. 13.05

0. Process and print photographs. The student will be able to: 14.0
 01. Prepare photos, both color and black and white images, for printing using photo editing software. 14.01
 02. Adjust the crop, bleed, and trim of a photograph. 14.02
 03. Adjust the color mode and resolution of a photograph. 14.03
 04. Calibrate computer monitor and software for printing system. 14.04
 05. Compare and contrast available papers, printers and inks. 14.05
 06. Compare and contrast available printing services based on quality, speed, price, reliability, location. 14.06
 07. Describe International Color Consortium (ICC) profiles purpose and use. 14.07
 08. Describe the value of archival inks and papers. 14.08
 09. Analyze color prints for color correction and tonality. 14.09
 10. Describe methods of mounting, matting and framing photographs. 14.10

Studio Photographer – Course Number: PGY0192

0. Demonstrate knowledge of photo/video journalism. The student will be able to: 15.0
 01. Describe the history of photo/video journalism. 15.01
 02. Identify the jobs and roles related to photo/video journalism. 15.02
 03. Analyze the legal and ethical issues related to photo/video journalism. 15.03
 04. Describe the elements that make up a photo story. 15.04
 05. Create a story board sequence of a photo story and write captions. 15.05
 06. Imbed metadata as needed. 15.06
 07. Shoot correct length of video to tell story and provide coverage. 15.07
 08. Prepare media for and identify distribution sources. 15.08
0. Demonstrate knowledge of video production with Interchangeable Lens Cameras (ILC). The student will be able to: 16.0
 01. Compare still and video modes on camera. 16.01
 02. Compose video shots to demonstrate movement. 16.02
 03. Choose the appropriate video format (standard/codec and frame rate). 16.03
 04. Compare and contrast ILC video with traditional video cameras 16.04
 05. Choose appropriate recording media based on card speed and size. 16.05
 06. Select appropriate focusing aids and methods. 16.06
 07. Analyze production requirements to determine lighting equipment needs. 16.07
 08. Set appropriate exposure, white balance and shutter speed. 16.08
 09. Use external audio capture device. 16.09
 10. Identify video compression picture quality loss. 16.10
 11. Demonstrate the use of full and cropped sensors (e.g., rolling shutter). 16.11
 12. Establish the use of action-safe and title-safe areas. 16.12
 13. Set appropriate focus. 16.13
 14. Analyze differences with various microphones (e.g., condenser, lavalier, dynamic) to capture audio for video. 16.14
 15. Understand the use of matte boxes. 16.15
 16. Demonstrate use of stabilization rigs. 16.16
 17. Transfer footage to content management software. 16.17
0. Demonstrate knowledge of video software. The student will be able to: 17.0
 01. Demonstrate the aspects of video editing used in production of video and audio clips, movies, etc. 17.01
 02. Identify panel layout and aspects of each in video editing software. 17.02

03. Use tools, effects, and filter features in video editing software. 17.03
04. Understand the importance of asset management when importing and organizing. 17.04
05. Sync external audio with corresponding video clip. 17.05
06. Use motion paths, rendering functions, and lighting effects in video editing software for specific/separate functionality within a work of art. 17.06
07. Apply layer mask to video. 17.07
08. Color-correct video using brightness, hue and contrast adjustments. 17.08
09. Use vector, text, and color keying tools. 17.09
10. Export and render video to appropriate format. 17.10
0. Practice the business of commercial digital photography. The student will be able to: 18.0
 01. Identify business aspects of commercial digital photography. 18.01
 02. Apply appropriate communication and human relations skills. 18.02
 03. Analyze the photography industry's various market sectors (events, family portrait, public relations, product/studio, fashion, catalog, magazine and food). 18.03
 04. Develop a business plan for a commercial photography business. 18.04
 05. Identify and understand the importance of industry associations related to commercial photography. 18.05
 06. Research market rates for photographic work. 18.06
 07. Compare and contrast available stock photography sites. 18.07
 08. Research online portfolio sites. 18.08
 09. Develop effective advertising. 18.09

Digital Photographer – Course Number: PGY0193

0. Operate various format cameras. The student will be able to: 19.0
 01. Use various format cameras (e.g., DSLR, mirrorless, hybrid, and medium format). 19.01
 02. Understand the unique attributes of mobile phone cameras. 19.02
 03. Understand processing images with tether capture within software. 19.03
 0. Demonstrate knowledge of advanced software retouching. The student will be able to: 20.0
 01. Process and create HDR images in camera and with photo editing software. 20.01
 02. Demonstrate alternate software workflows. 20.02
 03. Process and create panoramic images in camera and with photo editing software. 20.03
 04. Create software presets. 20.04
 05. Process and create black and white images in camera and with photo editing software. 20.05
 06. Utilize digital stitching and composite images into single frame images. 20.06
 07. Restore damaged photos. 20.07
 08. Reduce ghosting effect using photo editing software. 20.08
 09. Reduce noise and correct chromatic aberrations. 20.09
 10. Export finished image as flat image or HDR format image. 20.10
 0. Develop a professional portfolio of work. The student will be able to: 21.0
 01. Identify elements of a professional portfolio and résumé. 21.01
 02. Examine and select student work to include in a portfolio and résumé. 21.02
 03. Select cohesive photographs and information to include in a portfolio and résumé. 21.03
 04. Explore and/or utilize websites and digital portfolio creation, distribution and viewing. 21.04
 05. Determine the format for portfolio and résumé. 21.05
 06. Research local galleries for portfolio exhibition. 21.06
 07. Produce résumé for final review. 21.07
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Digital Publishing Assistant 1 – Course Number: GRA0020

0. Demonstrate an understanding of safety and first aid practices. The student will be able to: **DPT.01.0**
 01. Discuss the importance of Material Safety Data Sheets (MSDS). **DPT.01.01**
 02. Practice proper safety procedures when operating equipment. **DPT.01.02**
 03. Pass a general lab safety test. **DPT.01.03**
 04. Demonstrate acceptable employee health habits. **DPT.01.04**
 05. Demonstrate knowledge of the Federal Hazard Communication regulation 29 CFR 1910.1200. **DPT.01.05**
 06. Pass a safety test in an individual's specialty area(s). **DPT.01.06**
 07. Practice approved methods to dispose of waste materials. **DPT.01.07**
 08. Read, comprehend and follow instructions on warning labels. **DPT.01.08**
 09. Demonstrate industry standard behaviors when working with others. **DPT.01.09**
 10. Demonstrate a working knowledge of the safety color code. **DPT.01.10**
0. Demonstrate an understanding of graphic communications occupations and processes. The student will be able to: **DPT.02.0**
 01. Define the global role of graphics. **DPT.02.01**
 02. Identify printing markets and types of printing businesses. **DPT.02.02**
 03. List printing's ranking among other industries. **DPT.02.03**
 04. Identify the major printing processes. **DPT.02.04**
 05. List the advantages of each major printing process. **DPT.02.05**
 06. List the disadvantages of each major printing process. **DPT.02.06**
 07. Identify the products produced by each major printing process. **DPT.02.07**
 08. List the flow of printing product from initial need to final product. **DPT.02.08**
 09. List the technical production flow from idea to a finished product. **DPT.02.09**
 10. Identify major occupations in the graphic arts. **DPT.02.10**
 11. List the major responsibilities for each occupation. **DPT.02.11**
 12. Identify basic salary/wage expectation ranges for the local area. **DPT.02.12**
 13. Explain the various processes used to produce digitally printed material. **DPT.02.13**
 14. Identify the various function screens on the user interface for a digital production printing system. **DPT.02.14**
0. Demonstrate proficiency in art and copy preparation. The student will be able to: **DPT.03.0**
 01. Prepare comprehensive layouts, including finished working mock-ups. **DPT.03.01**

02. Employ the use of printer's measurements to compute inches and fractions, points and picas, decimals, percentages, and proportions. [DPT.03.02](#)
03. Use copy fitting and mark-up procedures to specify type sizes, styles, etc. [DPT.03.03](#)
04. Follow a job ticket to program and run standard jobs using a digital production printing system. [DPT.03.04](#)
05. Program and load stock needed for a standard job. [DPT.03.05](#)
06. Demonstrate basic proficiency in the operation of the scanner component of a black and white digital production printing system. [DPT.03.06](#)
07. Demonstrate basic proficiency in the operation of the printer component of a digital production printing system. [DPT.03.07](#)
08. Demonstrate basic proficiency in the operation of the delivery and binding components of a digital production printing system. [DPT.03.08](#)
0. Demonstrate an understanding of the use of image manipulation programs. The student will be able to: [DPT.04.0](#)
 01. Use a variety of paint/edit/selection tools and special effects filters to manipulate digital images. [DPT.04.01](#)
 02. Identify industry standards and practices for file image compression, storage, and retrieval. [DPT.04.02](#)
 03. Apply image correction and color correction procedures/tools to continuous tone files. [DPT.04.03](#)
 04. Control image editing software to incorporate tone reproduction characteristics into continuous tone files. [DPT.04.04](#)
 05. Use photo editing software to incorporate output requirements into continuous tone files. [DPT.04.05](#)

Digital Publishing Assistant 2 – Course Number: GRA0021

0. Demonstrate proficiency in basic electronic imaging competencies. The student will be able to: **DPT.05.0**
 01. Read and comprehend production information on a job jacket/ticket. **DPT.05.01**
 02. Identify the various kinds of items that can be designed and produced using desktop publishing and digital production printing systems. **DPT.05.02**
 03. Demonstrate understanding of software capabilities. **DPT.05.03**
 04. Select appropriate software for word processing, graphics, scanning and page layout. **DPT.05.04**
 05. Organize a file management system for opening, copying, saving and deleting files. **DPT.05.05**
 06. Demonstrate file management operations for opening, copying, saving and deleting files. **DPT.05.06**
 07. Prepare a dummy for a multi-page signature. **DPT.05.07**
 08. Demonstrate an understanding of data exchange. **DPT.05.08**
0. Demonstrate an understanding of the uses of type and typography. The student will be able to: **DPT.06.0**
 01. Measure copy/text in points and picas using a line gauge. **DPT.06.01**
 02. Identify x-height, mean line, baseline, ascenders, descenders, and their roles in measuring and designing with type. **DPT.06.02**
 03. Identify caps, lowercase, uppercase, small caps and ligatures. **DPT.06.03**
 04. Define dingbats, bullets, rules, and symbols and their uses in publications. **DPT.06.04**
 05. Distinguish between display (headline) type and body (text) type by point sizes and styles. **DPT.06.05**
 06. Identify the basic type styles and their uses. **DPT.06.06**
 07. Define the "weight" and "posture" of type. **DPT.06.07**
 08. Distinguish between serif and sans-serif type styles. **DPT.06.08**
 09. Define letter spacing and kerning of type characters. **DPT.06.09**
 10. Define word spacing and the relationship of em and en in paragraph spacing. **DPT.06.10**
 11. Define line spacing and explain the measurement principles for the leading of text. **DPT.06.11**
 12. Define type arrangements (flush left, ragged right, flush right, ragged left, centered, justified, and forced justified). **DPT.06.12**
 13. Define and demonstrate copy fitting. **DPT.06.13**
0. Demonstrate an understanding of the use of page layout operations. The student will be able to: **DPT.07.0**

01. Demonstrate how to markup a copy for production of a printed piece. [DPT.07.01](#)
02. Select appropriate page layout software for a given job. [DPT.07.02](#)
03. Demonstrate functional knowledge of computer commands/codes/menus/palette for the software in use. [DPT.07.03](#)
04. Demonstrate text alignment, element positioning and rules of page design for printed matter. [DPT.07.04](#)
05. Demonstrate a proficiency in conducting basic search operations. [DPT.07.05](#)
06. Place copy from a word processing program to a page layout program according to job specifications. [DPT.07.06](#)
07. Proofread, edit and make corrections/adjustment to copy on screen. [DPT.07.07](#)
08. Download fonts. [DPT.07.08](#)
09. Place graphics, rules, and dingbats from an existing file into a publication. [DPT.07.09](#)
10. Demonstrate the procedure for cropping graphics electronically. [DPT.07.10](#)
11. Create a 2-sided, 3-panel brochure using graphics and text for publication. [DPT.07.11](#)
12. Create a 4-page newsletter using windows, blocks, text, graphics, frames and headings. [DPT.07.12](#)
13. Create a 2-page newsletter using drop caps for paragraph openings, wraparound (runaround) and graphics. [DPT.07.13](#)
14. Create a printed piece using tints, reverses and manipulated type for effect. [DPT.07.14](#)
15. Produce a multicolor flyer using electronic spot color separations. [DPT.07.15](#)
16. Demonstrate knowledge of available page layout programs - capabilities, advantages, and disadvantages. [DPT.07.16](#)
17. Use electronic dictionaries, spell checker, and automatic hyphenation. [DPT.07.17](#)
0. Demonstrate an understanding of scanning (image capture) operations. The student will be able to: [DPT.08.0](#)
 01. Identify scanner hardware and its basic components and operations. [DPT.08.01](#)
 02. Identify basic scanner software, its uses and limitations. [DPT.08.02](#)
 03. Demonstrate appropriate scanner/program operations for continuous tone copy. [DPT.08.03](#)
 04. Place scanned graphics/photos into an existing page layout program. [DPT.08.04](#)
 05. Use a camera for capturing images intended for print reproduction. [DPT.08.05](#)
 06. Clean and prepare prints for final scans. [DPT.08.06](#)
 07. Properly handle customer's original art. [DPT.08.07](#)

0. Demonstrate an understanding of a vector based graphics programs. The student will be able to: [DPT.09.0](#)
 01. Log-on/boot-up a vector-based graphics program and demonstrate a functional knowledge of commands/codes/menus/tools and procedures for their uses. [DPT.09.01](#)
 02. Draw a design appropriate for a given job using a graphics program. [DPT.09.02](#)
 03. Create a design using tints, fills and paint for a given job using a graphics program. [DPT.09.03](#)
 04. Create a design using manipulated type (rotated, circled, extended, etc.) for a publication. [DPT.09.04](#)
 05. Trace a drawing/photograph using a graphics program. [DPT.09.05](#)
 06. Create a design/publication using electronic clip art. [DPT.09.06](#)
0. Demonstrate an understanding of electronic pre-press operations. The student will be able to:: [DPT.10.0](#)
 01. Define the application of digital photography in electronic imaging. [DPT.10.01](#)
 02. Identify and compare digital proofs. [DPT.10.02](#)
 03. Demonstrate an understanding of the PostScript page description language. [DPT.10.03](#)
 04. Describe the strengths and weaknesses of TIFF, EPS, PICT, JPEG, PNG, GIF, and DCS image formats. [DPT.10.04](#)
 05. Use a file compression utility for file transfer or storage. [DPT.10.05](#)
 06. Create a single color layout using clip art. [DPT.10.06](#)
 07. Create a single color layout using work and turn. [DPT.10.07](#)
 08. Change contrast using tint screens and shading techniques. [DPT.10.08](#)
 09. Create a logo design and integrate it into a brochure design. [DPT.10.09](#)
 10. Produce special effects type using a graphics application. [DPT.10.10](#)
 11. Produce a multicolor job that includes scans, text and spot color artwork. [DPT.10.11](#)
 12. Prepare page layout files containing graphic images for remote output. [DPT.10.12](#)
 13. Follow instructions to produce, modify or output files according to a customer supplied criteria. [DPT.10.13](#)
 14. Produce a color scan. [DPT.10.14](#)
 15. Use a photo manipulation program to perform basic color correction and basic image cloning. [DPT.10.15](#)
 16. Describe the characteristics of output devices. [DPT.10.16](#)
 17. Configure software and hardware for output to devices. [DPT.10.17](#)
 18. Evaluate image (output) quality. [DPT.10.18](#)

19. Submit files to and use network, non-network and remote output devices. [DPT.10.19](#)
0. Demonstrate proficiency in using image manipulation programs. The student will be able to: [DPT.11.0](#)
 01. Use a variety of paint/edit/selection tools and special effects filters to manipulate digital images. [DPT.11.01](#)
 02. Identify and apply industry standards and practices in file image compression, storage, and retrieval. [DPT.11.02](#)
 03. Apply image correction and color correction procedures/tools to continuous tone files. [DPT.11.03](#)
 04. Control image editing software to incorporate tone reproduction characteristics into continuous tone files. [DPT.11.04](#)
 05. Use photo editing software to incorporate output requirements into continuous tone files. [DPT.11.05](#)

Desktop Publishing Specialist 1 – Course Number: GRA0022

0. Demonstrate proficiency in advanced operation of digital production printing systems. The student will be able to: [DPT.12.0](#)
 01. Use the system interface to adjust image tone reproduction quality. [DPT.12.01](#)
 02. Use the system interface to modify page images through the functions of copy, mask, duplicate, delete, move, add, replace, rotate, and overlay images. [DPT.12.02](#)
 03. Use the merge library function. [DPT.12.03](#)
 04. Program and run a job with tab stock. [DPT.12.04](#)
 05. Program and run a job with folded signatures. [DPT.12.05](#)
 06. Program and set-up the various in-line finishing and binding options. [DPT.12.06](#)
 07. Program and run productivity features including cover sheets, job separator sheets, and the use of saved job tickets. [DPT.12.07](#)
 08. Program and run jobs on a digital color printing system. [DPT.12.08](#)
 09. Evaluate and adjust color print quality. [DPT.12.09](#)
 10. Apply troubleshooting and problem solving strategies on digital printing systems. [DPT.12.10](#)
0. Demonstrate proficiency in the use of type and typography. The student will be able to: [DPT.13.0](#)
 01. Identify strategies and software used for font management in desktop publishing. [DPT.13.01](#)
 02. Set-up and use font management software. [DPT.13.02](#)
 03. Use the type scaling, kerning, tracking, and baseline shift typographic functions. [DPT.13.03](#)
 04. Demonstrate the comparative typography weaknesses and strengths of word processing software and page layout software. [DPT.13.04](#)
 05. Identify the differences between formatted and unformatted text files. [DPT.13.05](#)
 06. Demonstrate the correct use of paragraph and character style definitions in page layout software applications. [DPT.13.06](#)
0. Demonstrate proficiency in using page layout operations. The student will be able to: [DPT.14.0](#)
 01. Set up column grids for electronic page layout according to job specifications. [DPT.14.01](#)
 02. Set up/select appropriate pagination for a given job. [DPT.14.02](#)
 03. Demonstrate the uses of footers and headers. [DPT.14.03](#)
 04. Set text with appropriate margins, formatting, gutters, leading, headings, etc. [DPT.14.04](#)

05. Define and apply multiple master pages to a long document. [DPT.14.05](#)
 06. Merge documents in part or in their entirety. [DPT.14.06](#)
 07. Use paths for type and for image clipping. [DPT.14.07](#)
 08. Modify and redefine page and document specifications. [DPT.14.08](#)
 09. Apply section numbering for long documents. [DPT.14.09](#)
 10. Prepare a document index page. [DPT.14.10](#)
 11. Save a document in various file formats. [DPT.14.11](#)
 12. Determine and set preferences for specific document production requirements. [DPT.14.12](#)
0. Demonstrate proficiency in advanced scanning (image capture) operations. The student will be able to: [DPT.15.0](#)
01. Clean and prepare prints and slides for final scans. [DPT.15.01](#)
 02. Calculate required scan resolution. [DPT.15.02](#)
 03. Demonstrate how to calculate required percentage of enlargement/reduction. [DPT.15.03](#)
 04. Properly handle customer's original art. [DPT.15.04](#)
 05. Scan reflection and transmission originals, to include following customer specifications for cropping, sizing, file formatting, and resolution. [DPT.15.05](#)
 06. Acquire files from disks. [DPT.15.06](#)
 07. Set-up and use Optical Character Recognition (OCR) software to capture text pages and prepare a document for editing in a word processing application. [DPT.15.07](#)
 08. Locate and download specified files from the WWW/Internet. [DPT.15.08](#)

Desktop Publishing Specialist 2 – Course Number: GRA0023

0. Demonstrate proficiency in the use of vector based graphics programs. The student will be able to: **DPT.16.0**
 01. Draw a design appropriate for a given job using a graphics program. **DPT.16.01**
 02. Create a design using tints, fills and paint for a given job using a graphics program. **DPT.16.02**
 03. Create a design using manipulated type (e.g., rotated, circled, extended) for a publication. **DPT.16.03**
 04. Trace a drawing/photograph using a graphics program. **DPT.16.04**
 05. Organize and use typography, photography and illustration elements to communicate information in print. **DPT.16.05**
0. Demonstrate proficiency in electronic pre-press operations. The student will be able to: **DPT.17.0**
 01. Calibrate a scanner. **DPT.17.01**
 02. Calibrate a color monitor. **DPT.17.02**
 03. Follow instructions to produce, modify or output files according to specified production workflow standards. **DPT.17.03**
 04. Describe the characteristics of output devices. **DPT.17.04**
 05. Configure software and hardware for output to devices. **DPT.17.05**
 06. Define data fields and publish contents of a database. **DPT.17.06**
 07. Submit files to and use servers, spoolers; queues, and software and hardware RIPs. **DPT.17.07**
0. Demonstrate proficiency in making and using files in the Portable Document Format (PDF). The student will be able to: **DPT.18.0**
 01. Define the relationship between PostScript and PDF files. **DPT.18.01**
 02. Identify and define the attributes and advantages of a PDF file. **DPT.18.02**
 03. Identify and define the uses of a PDF file in the digital printing workflow. **DPT.18.03**
 04. Identify and define ways to distribute PDF files. **DPT.18.04**
 05. Make a PDF file from a PostScript file to meet given production specifications. **DPT.18.05**
 06. Edit, modify, and annotate a PDF file using appropriate software. **DPT.18.06**
 07. Use the PDF file format to make a multi-purposed document for both digital printing and interactive media. **DPT.18.07**
 08. Make a searchable digital catalog of a collection of PDF files. **DPT.18.08**
 09. Define and apply security and job options to PDF files. **DPT.18.09**
 10. Organize and embed fonts in a PDF file. **DPT.18.10**

0. Demonstrate proficiency in performing basic finishing and distribution competencies. The student will be able to: [DPT.19.0](#)
 01. Read and comprehend production information on a job jacket/ticket. [DPT.19.01](#)
 02. Apply basic math skills to binding and distribution operations. [DPT.19.02](#)
 03. Prepare a folding dummy from a press sheet in accordance with job ticket specifications and an approved proof. [DPT.19.03](#)
 04. Setup and operate a folder in accordance with job ticket specifications and the folding dummy. [DPT.19.04](#)
 05. Apply basic principles of finishing and distribution following folded bound signature impositions to allow for lips, trims and bleeds according to saddle-stitch and side-stitch binding methods. [DPT.19.05](#)
 06. Define how to setup and use cutters. [DPT.19.06](#)
 07. Prepare rule-out of press sheet for finishing operations according to job ticket specifications and the approved proof. [DPT.19.07](#)
 08. Setup and operate a cutter in accordance with rule-out. [DPT.19.08](#)
 09. Square substrate. [DPT.19.09](#)
 10. Define and identify problems with substrate. [DPT.19.10](#)
 11. Define the proper maintenance procedures for paper cutters. [DPT.19.11](#)
 12. Understand and define how to change the blade on a paper cutter. [DPT.19.12](#)
 13. Select and identify the most commonly used types of paper. [DPT.19.13](#)
 14. Demonstrate knowledge of paper types related to the printing, folding and binding characteristics of each type. [DPT.19.14](#)
 15. Hand-jog 8 1/2" x 11" substrate. [DPT.19.15](#)
 16. Machine-jog substrate. [DPT.19.16](#)
 17. Define and identify off-line finishing systems. [DPT.19.17](#)
 18. Define the fundamentals of saddle stitching and perfect binding. [DPT.19.18](#)
 19. Identify the components of case, spiral, and perfect bound books. [DPT.19.19](#)
 20. Estimate the cost of materials and production for performing bindery operations (cutting, scoring, folding, packaging and coating). [DPT.19.20](#)
 21. Setup and operate a stitcher (side and saddle). [DPT.19.21](#)
 22. List the techniques used to control waste production and disposal in a modern bindery. [DPT.19.22](#)
 23. Define and identify spiral, comb, and wire binding equipment and supplies. [DPT.19.23](#)
 24. Define tipping procedures. [DPT.19.24](#)
 25. Perform preventive maintenance on binding and finishing equipment. [DPT.19.25](#)

26. Demonstrate methods of counting substrate (machine, measurement, weight and rapid multiple-sheet manual counting by fives). [DPT.19.26](#)
 27. Define collating flat sheets. [DPT.19.27](#)
 28. Setup and operate a paper drill for a standard loose-leaf binder. [DPT.19.28](#)
 29. Define and identify packaging and shrink-wrapping equipment. [DPT.19.29](#)
 30. Demonstrate how to package and identify a completed job according to job specifications. [DPT.19.30](#)
 0. Demonstrate understanding of color principles as applied to the preparation, production, evaluation, and correction of color printing. The student will be able to: [DPT.20.0](#)
 01. Describe the concepts of color theory and color temperature. [DPT.20.01](#)
 02. Describe factors affecting the perception and recognition of color. [DPT.20.02](#)
 03. Identify and apply industry standard criteria to the evaluation of color in imaging and publishing. [DPT.20.03](#)
 04. Describe and identify the components and processes of color publishing systems. [DPT.20.04](#)
 05. Evaluate and color correct the quality of color publishing images. [DPT.20.05](#)
 06. Identify and describe models used to specify color. [DPT.20.06](#)
 07. Describe and identify color output devices of digital imaging systems. [DPT.20.07](#)
 08. Evaluate the quality of digital imaging color output devices. [DPT.20.08](#)
 09. Identify and describe the purposes of a Color Management System. [DPT.20.09](#)
 0. Demonstrate the ability to maintain and troubleshoot normal operating problems on a digital printing system. The student will be able to: [DPT.21.0](#)
 01. Perform the preventive maintenance procedures for cleaning sensors, camming motor, and binder. [DPT.21.01](#)
 02. Adjust paper path to handle various papers. [DPT.21.02](#)
 03. Determine source of machine-based printing problems and how to apply correction strategies. [DPT.21.03](#)
 04. Determine when to appropriately contact vendor technical support. [DPT.21.04](#)
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**Graphic
Communications and
Printing Technology
(K300100)**

Printing and Graphic Communications – Course Number: GRA0041

0. Demonstrate understanding of safety and first aid practices. The student will be able to: **GC.01.0**
 01. Identify the location of fire safety equipment. **GC.01.01**
 02. Describe the proper use of fire safety equipment. **GC.01.02**
 03. List safety rules involving flammable liquids. **GC.01.03**
 04. List the steps to be taken in case of injury in the lab. **GC.01.04**
 05. Identify locations of first aid kits and eye wash stations. **GC.01.05**
 06. Discuss the importance of the Material Safety Data Sheets (MSDS). **GC.01.06**
 07. Identify protective safety equipment (e.g., gloves, goggles, ear plugs). **GC.01.07**
 08. Practice proper safety procedures when operating equipment. **GC.01.08**
 09. Practice approved shop dress code for safe operation; include the necessary personal safety equipment. **GC.01.09**
 10. Pass a general lab safety test. **GC.01.10**
 11. Demonstrate acceptable employee health habits. **GC.01.11**
 12. Demonstrate knowledge of the "Right-to-Know" law. **GC.01.12**
 13. Pass a safety test related to the individual's specialty area(s). **GC.01.13**
 14. Practice approved methods for the disposal of waste materials. **GC.01.14**
 15. Read, comprehend and follow instructions on warning labels. **GC.01.15**
 16. Demonstrate common sense when working with others. **GC.01.16**
 17. Demonstrate a working knowledge of the safety color code. **GC.01.17**
0. Demonstrate understanding of graphic communications occupations and processes. The student will be able to: **GC.02.0**
 01. Define the role of graphics in a free enterprise system. **GC.02.01**
 02. Identify printing markets and types of printing businesses. **GC.02.02**
 03. List the rank of the printing industry among other industries. **GC.02.03**
 04. Identify the major printing processes. **GC.02.04**
 05. List the advantages of each major process. **GC.02.05**
 06. List the disadvantages of each major process. **GC.02.06**
 07. Identify the products produced by each major process. **GC.02.07**
 08. List the business flow of printing from initial need to final product. **GC.02.08**
 09. List the technical production flow from idea to finished product. **GC.02.09**
 10. Identify major occupations in the graphic arts. **GC.02.10**
 11. List the primary responsibilities for each occupation. **GC.02.11**
 12. Identify basic salary/wage expectation ranges for the local area. **GC.02.12**

0. Demonstrate proficiency in art and copy preparation. The student will be able to: [GC.03.0](#)
 01. Demonstrate how to prepare thumbnail layouts. [GC.03.01](#)
 02. Demonstrate how to prepare rough layouts. [GC.03.02](#)
 03. Demonstrate how to prepare comprehensive layouts; include a finished working dummy. [GC.03.03](#)
 04. Employ the use of printer's measurements to compute inches, fractions, points, picas, decimals, percentages, and proportions. [GC.03.04](#)
 05. Check and compare the completed original to comprehensive layouts for final proofing. [GC.03.05](#)
0. Demonstrate proficiency in prepress/imaging operations. The student will be able to: [GC.04.0](#)
 01. Identify basic equipment and tools and the safety rules pertaining to prepress/imaging operations. [GC.04.01](#)
 02. Demonstrate how to choose type using the correct size and format. [GC.04.02](#)
 03. Identify the fundamentals and uses of type. [GC.04.03](#)
 04. Identify the types of items that can be designed and produced using a page layout program. [GC.04.04](#)
 05. Demonstrate keyboarding skills. [GC.04.05](#)
 06. State how to organize a file management system for opening, copying, saving and deleting files. [GC.04.06](#)
 07. Demonstrate file management operations for opening, copying, saving and deleting files. [GC.04.07](#)
 08. Demonstrate how to log-on/boot-up and print from a page layout program; demonstrate a functional knowledge of computer commands/codes/menus/palettes for the software in use. [GC.04.08](#)
 09. Demonstrate how to set text with appropriate margins, formatting, gutters, leading, headings, etc. [GC.04.09](#)
 10. Demonstrate how to flow copy from a word processing program according to job specifications. [GC.04.10](#)
0. Demonstrate proficiency in image assembly/platemaking. The student will be able to: [GC.05.0](#)
 01. Identify platemaking equipment and tools for offset metal plates. [GC.05.01](#)
 02. Identify plate material types and processing chemicals for making offset metal plates. [GC.05.02](#)
 03. Demonstrate how to produce a correctly exposed and processed metal plate for offset printing. [GC.05.03](#)
 04. Identify computer-to-plate platemaking equipment. [GC.05.04](#)
0. Demonstrate proficiency in performing basic offset press operations. The student will be able to: [GC.06.0](#)

01. Identify basic offset duplicator parts and operations. GC.06.01
02. Identify basic safety and operation procedures for an offset duplicator or a single-color printing press. GC.06.02
03. Demonstrate basic setup procedures for printing a single-color job. GC.06.03
04. Produce a printed single-color job using an offset duplicator. GC.06.04
0. Demonstrate proficiency in basic finishing and bindery operations. The student will be able to: GC.07.0
 01. Identify the operational and safety parts of a paper cutter. GC.07.01
 02. Identify the grain direction of paper. GC.07.02
 03. Demonstrate how to calculate basic paper cuts from a stock sheet. GC.07.03
 04. Demonstrate how to draw a master cutting diagram for making cuts. GC.07.04
 05. Demonstrate how to make accurate paper cuts using a mechanized paper cutter. GC.07.05
 06. Identify basic paper types, weights, grades and classifications used in the printing industry. GC.07.06
 07. Identify padding materials. GC.07.07
 08. Demonstrate how to produce correctly made pads of paper. GC.07.08
 09. Identify stapling and stitching equipment, materials and supplies. GC.07.09
 10. Demonstrate how to produce side-stitched, saddle-stitched, and stapled products. GC.07.10
 11. Identify punching/drilling equipment and hand tools. GC.07.11
 12. Demonstrate how to measure three-ring notebook pages for drilling. GC.07.12
 13. Demonstrate how to make holes for three-ring notebooks. GC.07.13
 14. Identify folding equipment and hand tools. GC.07.14
 15. Identify basic folds for printed products. GC.07.15
 16. Demonstrate how to make a single fold using an automatic folding machine. GC.07.16
 17. Identify collating equipment and hand tools. GC.07.17
 18. Demonstrate how to make sets of paper using collating equipment in the correct sequence. GC.07.18
 19. Demonstrate how to hand collate sets in proper sequence. GC.07.19
 20. Identify the cut products and the basic procedure for die cutting. GC.07.20
 21. Identify hot foil stamped products and the basic equipment, materials, and procedures for foil stamping. GC.07.21
0. Demonstrate appropriate math skills. The student will be able to: GC.08.0
 01. Demonstrate how to solve addition, subtraction, multiplication and division of whole numbers. GC.08.01

02. Demonstrate how to solve addition, subtraction, multiplication and division of fractions. GC.08.02
03. Demonstrate how to solve addition, subtraction, multiplication and division of decimals. GC.08.03
04. Demonstrate how to solve fraction to decimal and decimal to fraction conversion problems. GC.08.04
05. Demonstrate how to solve decimal to percent and percent to decimal conversion problems. GC.08.05
06. Demonstrate how to solve basic ratio and proportion problems. GC.08.06
07. Demonstrate how to solve basic linear measurement problems. GC.08.07
08. Demonstrate how to solve basic inches to picas and picas to inches conversion problems. GC.08.08
09. Demonstrate how to solve inches to points and points to inches conversion problems. GC.08.09
10. Demonstrate how to solve cost-calculating problems. GC.08.10

Digital Production Printing – Course Number: GRA0042

0. Demonstrate proficiency in performing basic imposition platemaking and digital printer competencies. The student will be able to: GC.09.0
01. Read and comprehend production information on a job jacket/ticket. GC.09.01
02. Demonstrate the ability to create a single-color layout for an envelope. GC.09.02
03. Demonstrate the ability to create a single-color layout for a work-and-turn imposition. GC.09.03
04. Demonstrate the ability to create a single-color layout for a work-and-tumble imposition. GC.09.04
05. Demonstrate the ability to create a single-color layout for a business card. GC.09.05
06. Demonstrate the ability to create a single-color layout for a 4-page sheetwise imposition. GC.09.06
07. Demonstrate the ability to assemble a single-color layout for an 8-page signature. GC.09.07
08. Demonstrate how to inspect and compare proofs to originals. GC.09.08
09. Identify the equipment, tools, and materials used in platemaking operations and the parts, functions, and safety rules related to their operation. GC.09.09
10. Apply basic math skills to platemaking operations. GC.09.10
11. Identify the different plate materials, types and processing chemicals and the methods of use for each. GC.09.11
12. Demonstrate how to expose, process and preserve metal plates. GC.09.12
13. Demonstrate how to make additions, deletions and repairs to metal plates. GC.09.13
14. Demonstrate how to inspect and compare plates to proofs. GC.09.14
15. Demonstrate how to properly handle, file, store and retrieve flats and plates. GC.09.15
0. Demonstrate proficiency in the operation of a digital production printing system. The student will be able to: GC.10.0
01. Use the system interface to adjust image tone reproduction quality. GC.10.01
02. Program and run a job for cardstock. GC.10.02
03. Program and run a job for folded signatures. GC.10.03
04. Program and set-up the various inline finishing and binding options. GC.10.04
05. Program and run productivity features (e.g., cover sheets, job separator sheets). GC.10.05
06. Program and run jobs on a digital color printing system. GC.10.06

07. Evaluate and adjust color print quality on a digital color printing system. GC.10.07
08. Apply troubleshooting and problem-solving strategies to digital printing systems. GC.10.08
09. Demonstrate how to produce a 2-sided, 3-panel brochure. GC.10.09
10. Demonstrate how to produce a 4-page newsletter on a digital printing system. GC.10.10

Digital Prepress Operations – Course Number: GRA0017

0. Demonstrate proficiency in basic electronic imaging competencies. The student will be able to: [GC.11.0](#)
 01. Read and comprehend production information on a job jacket/ticket. [GC.11.01](#)
 02. Identify the various types of items that can be designed and produced using desktop publishing. [GC.11.02](#)
 03. Identify the basic principles of design (e.g., unity, contrast, page proportions, and balance). [GC.11.03](#)
 04. Demonstrate how to incorporate basic design principles in hand-drawn sketches and measured layouts. [GC.11.04](#)
 05. Identify line copy. [GC.11.05](#)
 06. Identify continuous tone and halftone copy. [GC.11.06](#)
 07. Identify basic process color principles and four kinds of color printing. [GC.11.07](#)
 08. Demonstrate understanding of electronic color-proofing techniques. [GC.11.08](#)
 09. Identify basic desktop publishing equipment. [GC.11.09](#)
 10. Define the limitations and capabilities of desktop publishing. [GC.11.10](#)
 11. Define the differences in quality of photo-processed output and laser printer output. [GC.11.11](#)
 12. Demonstrate understanding of postscript software capabilities. [GC.11.12](#)
 13. Define the operation of the hardware components of a computer aided publishing system. [GC.11.13](#)
 14. Demonstrate how to select appropriate software for word processing, graphics, scanning and page layout. [GC.11.14](#)
 15. Demonstrate a keyboard typing proficiency of a minimum of 30 WPM. [GC.11.15](#)
 16. State how to organize a file management system for opening, copying, saving and deleting files. [GC.11.16](#)
 17. Demonstrate file management operations for opening, copying, saving and deleting files. [GC.11.17](#)
 18. Demonstrate how to prepare a series of hand-drawn sketches for layouts incorporating appropriate marks (e.g., gutters, register marks, and fold lines). [GC.11.18](#)
 19. Demonstrate how to prepare a dummy for a multi-page signature. [GC.11.19](#)
 20. Demonstrate an understanding of data exchange. [GC.11.20](#)
0. Demonstrate proficiency in the use of type and typography. The student will be able to: [GC.12.0](#)
 01. Demonstrate how to measure copy/text in points and picas using a line gauge. [GC.12.01](#)
 02. Demonstrate how to measure type using a type-fitting gauge. [GC.12.02](#)

03. Demonstrate how to identify x-height, meanline, baseline, ascenders, descenders, and the roles of each in measuring and designing with type. GC.12.03
04. Demonstrate how to identify caps, lowercase, uppercase, small caps and ligatures. GC.12.04
05. Define dingbats, bullets, rules, and symbols and the uses of each in publications. GC.12.05
06. Demonstrate how to distinguish between display (headline) type and body (text) type by point size and style. GC.12.06
07. Demonstrate how to identify basic type styles and the uses of each style. GC.12.07
08. Determine the weight and posture of type. GC.12.08
09. Demonstrate how to distinguish between serif and sans-serif type styles. GC.12.09
10. Define letter spacing and kerning of type characters. GC.12.10
11. Define word spacing and the relationship of em and en in paragraph spacing. GC.12.11
12. Define line spacing and explain the measurement principles for the leading of text. GC.12.12
13. Define type arrangements: flush left, ragged right, flush right, ragged left, centered, justified, and forced justified. GC.12.13
14. Define and demonstrate copy fitting. GC.12.14
0. Demonstrate proficiency in using page layout operations. The student will be able to: GC.13.0
 - 01. Demonstrate how to prepare rough layouts. GC.13.01
 - 02. Demonstrate how to markup a copy for the production of a printed piece. GC.13.02
 - 03. Demonstrate how to select appropriate page layout software for a given job. GC.13.03
 - 04. Demonstrate how to log-on/boot-up and print out from a page layout program; demonstrate a functional knowledge of computer commands/codes/menus/palette for the software in use. GC.13.04
 - 05. Demonstrate text alignment, element positioning and the rules of page design for printed material. GC.13.05
 - 06. Demonstrate how to set-up column grids for an electronic page layout according to job specifications. GC.13.06
 - 07. Demonstrate how to set-up/select appropriate pagination for a given job. GC.13.07
 - 08. Demonstrate the uses of headers and footers. GC.13.08

09. Demonstrate how to set text with appropriate margins, formatting, gutters, leading, headings, etc. GC.13.09
10. Demonstrate a proficiency in conducting basic search operations. GC.13.10
11. Demonstrate how to place copy from a word processing program into a page layout program according to job specifications. GC.13.11
12. Demonstrate how to proofread, edit and make corrections/adjustments to copy on screen. GC.13.12
13. Demonstrate how to download fonts. GC.13.13
14. Demonstrate how to transfer graphics, rules, and dingbats from an existing file into a publication. GC.13.14
15. Demonstrate the procedure for cropping graphics electronically. GC.13.15
16. Use graphics and text to create a 2-sided, 3-panel brochure for publication. GC.13.16
17. Demonstrate how to create a 4-page newsletter using windows, blocks, text, graphics, frames and headings. GC.13.17
18. Demonstrate how to create a 2-page newsletter using drop caps for paragraph openings, wraparound (run-around) and graphics. GC.13.18
19. Use tints, reverses, and manipulated type for effect to create a printed piece. GC.13.19
20. Demonstrate how to produce a multicolor flyer using electronic spot color separations. GC.13.20
21. Demonstrate knowledge of the capabilities, advantages, and disadvantages of available page layout programs. GC.13.21
22. Demonstrate the use of an electronic dictionary, spell checker, and automatic hyphenation. GC.13.22
0. Demonstrate proficiency in scanning operations. The student will be able to: GC.14.0
 01. Identify the hardware, basic components and operations associated with scanners. GC.14.01
 02. Identify basic scanner software and its uses and limitations. GC.14.02
 03. Demonstrate appropriate scanner/program operations for continuous tone copy. GC.14.03
 04. Demonstrate how to place scanned graphics/photos into existing page layout program. GC.14.04
0. Demonstrate understanding of a vector-based graphics program. The student will be able to: GC.15.0
 01. Demonstrate how to log-on/boot-up a vector-based graphics program; demonstrate a functional knowledge of commands/codes/menus/hand tools and procedures for their uses. GC.15.01
 02. Use a graphics program to draw a design appropriate for a given job. GC.15.02

03. Use tints, fills, and paint in a graphics program to create a design for a given job. GC.15.03
04. Use manipulated type (e.g., rotated, circled, extended) to create a design for a publication. GC.15.04
05. Demonstrate how to trace a drawing/photograph using a graphics program. GC.15.05
06. Demonstrate how to create a design/publication using digital clip art. GC.15.06
0. Demonstrate proficiency in electronic prepress operations. The student will be able to: GC.16.0
 01. Describe the application of digital photography in electronic imaging. GC.16.01
 02. List the capabilities and functions of image setters. GC.16.02
 03. Identify and compare digital proofs. GC.16.03
 04. Identify and compare networking systems. GC.16.04
 05. Identify the current systems/techniques for outputting files directly to plate material. GC.16.05
 06. Demonstrate an understanding of page description languages (e.g., PostScript). GC.16.06
 07. Compare the leading operating systems based on performance, uses and capabilities. GC.16.07
 08. Explain storage guidelines and limitations. GC.16.08
 09. List the advantages and disadvantages of different storage media options. GC.16.09
 10. List the use and capabilities of storage devices for the transport and storage of electronic imaging work. GC.16.10
 11. Describe the strengths and weaknesses of TIFF, EPS, PICT and other formats in a page description language environment. GC.16.11
 12. Demonstrate how to convert files from PC to Mac formats. GC.16.12
 13. Demonstrate how to use a file compression utility for file transfer or storage. GC.16.13
 14. Describe the differences between TrueType, OpenType and PostScript fonts. GC.16.14
 15. Demonstrate how to use a telecommunications program and a modem to transfer files. GC.16.15
 16. Demonstrate how to create a single-color layout using clip art. GC.16.16
 17. Demonstrate how to create a single-color layout using work-and-turn. GC.16.17
 18. Demonstrate how to change contrast using tint screens and shading techniques. GC.16.18
 19. Demonstrate how to create a logo design on a computer and integrate it into a brochure design. GC.16.19

20. Demonstrate how to produce special effects type using a graphics application. [GC.16.20](#)
21. Demonstrate how to produce a job on the computer using electronic imposition. [GC.16.21](#)
22. Demonstrate how to create a job that incorporates electronic trapping. [GC.16.22](#)
23. Demonstrate how to produce a multicolor job that includes scans, text and spot color artwork. [GC.16.23](#)
24. Demonstrate how to prepare page layout files containing graphic images for remote output. [GC.16.24](#)
25. Demonstrate how to follow instructions to produce, modify or output files according to customer-supplied criteria. [GC.16.25](#)
26. Demonstrate how to use optical character recognition (OCR) software to capture text. [GC.16.26](#)
27. Demonstrate how to calibrate a desktop color scanner. [GC.16.27](#)
28. Demonstrate how to produce a color scan. [GC.16.28](#)
29. Demonstrate how to use an image manipulation program to perform basic color correction and basic image cloning. [GC.16.29](#)
30. Demonstrate how to calibrate a color monitor. [GC.16.30](#)

Offset Printing Technology – Course Number: GRA0045

0. Demonstrate proficiency in the operation of a basic offset press. The student will be able to: [GC.17.0](#)
 01. Identify the equipment and materials used in offset press operations, their parts and functions, and the safety rules related to their operation. [GC.17.01](#)
 02. Apply basic principles of offset lithography pertaining to the physical and chemical properties of ink components (pigment, vehicle, and dryer). [GC.17.02](#)
 03. Apply basic principles of offset lithography pertaining to dampening systems (ducted and continuous). [GC.17.03](#)
 04. Apply basic principles of offset lithography pertaining to the chemical components of fountain solutions (acid, alkaline, and neutral). [GC.17.04](#)
 05. Apply basic principles of offset lithography pertaining to pH-control and its effects on the lithographic process. [GC.17.05](#)
 06. Apply basic principles of offset lithography pertaining to interrelationships on the process of paper (coated and uncoated and various grades within). [GC.17.06](#)
 07. Demonstrate how to determine the grain direction of paper. [GC.17.07](#)
 08. Demonstrate how to handle and jog paper stock (wire/felt, watermarks, carbonless sequence). [GC.17.08](#)
 09. Demonstrate how to identify paper weight, coating and sizes. [GC.17.09](#)
 10. Demonstrate how to identify paper problems, curling, dust, moisture, flaring, etc. [GC.17.10](#)
 11. Apply basic principles of offset lithography pertaining to the interrelationships of textured or smooth paper, plastic, metal plates, and conventional or compressible blankets. [GC.17.11](#)
 12. Apply basic principles of offset lithography pertaining to ink and its drying properties in relation to fountain solution and the plate and paper used (effects of ink film thickness, drying time and set off; the problems associated with inappropriate use of spray powder). [GC.17.12](#)
 13. Apply basic principles of plate preservation after presswork for long-term storage (use of gum arabic and asphaltum). [GC.17.13](#)
 14. Demonstrate how to prepare a press for operation by reviewing job-ticket specifications and then selecting the appropriate press and materials. [GC.17.14](#)
 15. Demonstrate how to prepare a press for operation based on the interrelationships of lithographic processes. [GC.17.15](#)
 16. Demonstrate how to mix fountain solution from concentrate. [GC.17.16](#)
 17. Demonstrate how to mix ink to color matching system specifications (e.g., Pantone Color Matching System). [GC.17.17](#)
 18. Demonstrate how to introduce ink and fountain solution to the press in proper sequence. [GC.17.18](#)

19. Demonstrate how to set-up and adjust the feeder to paper specifications (air blast, vacuum, choke). [GC.17.19](#)
20. Demonstrate how to set-up and adjust the register system to single sheet, stream fed, side guide, and head register. [GC.17.20](#)
21. Demonstrate how to set-up and adjust delivery (chute or chain). [GC.17.21](#)
22. Demonstrate how to mount a blanket cylinder (and pack if necessary) and adjust to press specifications. [GC.17.22](#)
23. Demonstrate how to set an impression cylinder to paper thickness and press specifications. [GC.17.23](#)
24. Demonstrate how to set and adjust the pressure of ink and water rollers to press specifications. [GC.17.24](#)
25. Demonstrate how to make-ready a press to ensure ink and water balance for uniform coverage, volume and replenishment of ink, image position, cylinder pressure, and sheet registration. [GC.17.25](#)
26. Demonstrate how to make additions, deletions and repairs to an offset plate. [GC.17.26](#)
27. Demonstrate how to inspect and evaluate the final make-ready sheet to job-ticket specifications and obtain proof approval to run. [GC.17.27](#)
28. Demonstrate how to set spray powder. [GC.17.28](#)
29. Demonstrate how to produce the required number of press sheets to meet job-ticket specifications. [GC.17.29](#)
30. Demonstrate how to preserve a plate for long-term storage. [GC.17.30](#)
31. Demonstrate how to perform press wash-up and roller treatment. [GC.17.31](#)
32. Demonstrate how to perform press maintenance to manufacturer's specifications. [GC.17.32](#)
33. Demonstrate how to apply basic principles of offset press operations with regard to work-and-turn, work-and-tumble and sheetwise printed products. [GC.17.33](#)
34. Demonstrate how to produce a tight register one-color project. [GC.17.34](#)
35. Demonstrate how to produce a tight register one-color or two-color, pre-collated carbonless project. [GC.17.35](#)
36. Demonstrate how to produce a two-color tight register project. [GC.17.36](#)
37. Demonstrate how to print a two-color job on a duplicator using a T-head. [GC.17.37](#)
38. Demonstrate how to produce a one-color or two-color tight register envelope project. [GC.17.38](#)
39. Demonstrate how to produce a tight register one-color metallic ink project. [GC.17.39](#)
40. Demonstrate how to produce a tight register one-color or two-color folding two-sided project. [GC.17.40](#)

41. Demonstrate how to produce a multicolor tight register project. [GC.17.41](#)
42. Demonstrate an understanding of and the ability to identify troubleshooting problems on a duplicator. [GC.17.42](#)
43. Identify and describe direct-imaging technologies. [GC.17.43](#)
44. Demonstrate how to clean and secure a duplicator for downtime. [GC.17.44](#)

Finishing and Distribution Processes – Course Number: GRA0046

0. Demonstrate proficiency in performing basic finishing and distribution competencies. The student will be able to: [GC.18.0](#)
 01. Demonstrate how to read and comprehend production information on a job jacket/ticket. [GC.18.01](#)
 02. Demonstrate how to identify the equipment and materials used in finishing and distribution operations, and the parts, functions, and safety rules related to their operation. [GC.18.02](#)
 03. Demonstrate how to apply basic math skills to binding and distribution operations. [GC.18.03](#)
 04. Demonstrate how to prepare a folding dummy from a press sheet according to job ticket specifications and the approved proof. [GC.18.04](#)
 05. Demonstrate how to set-up and operate a folder in accordance with job ticket specifications and the folding dummy. [GC.18.05](#)
 06. Demonstrate how to use folding equipment to produce single, gate and accordion folds. [GC.18.06](#)
 07. Describe and identify right-angle folds. [GC.18.07](#)
 08. Apply the basic principles of finishing and distribution to folded/bound signature impositions to allow for lips, trims and bleeds according to saddle-stitch and side-stitch binding methods. [GC.18.08](#)
 09. Identify and explain slitting, perforating and scoring functions and equipment pertaining to folding operations. [GC.18.09](#)
 10. Explain how to use and set-up cutters. [GC.18.10](#)
 11. Demonstrate how to prepare rule-out of a press sheet for finishing operations according to job ticket specifications and the approved proof. [GC.18.11](#)
 12. Demonstrate how to set-up and operate a cutter in accordance with rule-out. [GC.18.12](#)
 13. Demonstrate how to square substrate. [GC.18.13](#)
 14. Identify and describe problems with substrate. [GC.18.14](#)
 15. Determine the proper maintenance procedures for paper cutters. [GC.18.15](#)
 16. Explain how to change the blade on a paper cutter. [GC.18.16](#)
 17. Define and identify the most commonly used types of paper. [GC.18.17](#)
 18. Identify paper types based on the printing, folding and binding characteristics of each type. [GC.18.18](#)
 19. Demonstrate how to hand-jog 8.5" X 11" substrate. [GC.18.19](#)
 20. Demonstrate how to hand-jog 17" X 22" or larger substrate. [GC.18.20](#)
 21. Demonstrate how to machine-jog substrate. [GC.18.21](#)
 22. Describe and identify offline finishing systems. [GC.18.22](#)

23. Explain the fundamentals of saddle-stitching and perfect binding. [GC.18.23](#)
 24. Identify and explain the uses of automated sorting and labeling equipment. [GC.18.24](#)
 25. Define and identify mail class rates (e.g., bulk, presorted). [GC.18.25](#)
 26. Identify and explain the quality control methods for bar codes in relation to postal standards. [GC.18.26](#)
 27. Identify and explain embossing procedures and equipment. [GC.18.27](#)
 28. List the common problems encountered with embossing. [GC.18.28](#)
 29. Identify the components of case, spiral and perfect bound books. [GC.18.29](#)
 30. Identify and describe modern book binding equipment; compare to hand-binding techniques. [GC.18.30](#)
 31. Demonstrate how to store and properly handle substrates. [GC.18.31](#)
 32. Define and identify UV coatings. [GC.18.32](#)
 33. List the advantages and disadvantages of UV coatings. [GC.18.33](#)
 34. Demonstrate how to estimate the cost of materials and production for performing bindery operations (cutting, scoring, folding, packaging, and coating). [GC.18.34](#)
 35. Demonstrate how to set-up and operate a side-stitcher and a saddle-stitcher. [GC.18.35](#)
 36. List the techniques used to control waste production and disposal in a modern bindery. [GC.18.36](#)
 37. Identify and describe spiral, comb and wire binding equipment and supplies. [GC.18.37](#)
 38. Describe tipping procedures. [GC.18.38](#)
 39. Demonstrate how to perform preventive maintenance on binding and finishing equipment. [GC.18.39](#)
 40. Demonstrate methods of counting substrate (machine, measurement, weight, rapid multiple-sheet manual counting by fives). [GC.18.40](#)
 41. Describe how to collate flat sheets. [GC.18.41](#)
 42. Demonstrate how to set-up and operate a paper drill for a standard loose-leaf binder. [GC.18.42](#)
 43. Identify and describe packaging and shrink-wrapping equipment. [GC.18.43](#)
 44. Demonstrate how to package and identify a completed job according to job specifications. [GC.18.44](#)
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Television Production Technology (K300300)

Studio Assistant – Course Number: RTT0514

0. Conduct online research for television production. The student will be able to: **TV.01.0**
 01. Complete an Internet search for viable information used in scripting a project. **TV.01.01**
 02. Identify valid websites for information retrieval. **TV.01.02**
0. Interpret scripts for television production. The student will be able to: **TV.02.0**
 01. Identify a script by format, function and utilization. **TV.02.01**
 02. Define the terminology used in script writing. **TV.02.02**
 03. Specify the steps leading to a script. **TV.02.03**
 04. Write a script in an appropriate format. **TV.02.04**
0. Demonstrate understanding of basic industry terminology and acronyms. The student will be able to: **TV.03.0**
 01. Define trade terminology, including the four steps of the production process. **TV.03.01**
 02. Define trade abbreviations and acronyms as appropriate. **TV.03.02**
0. Apply knowledge of the television production technology program procedures. The student will be able to: **TV.04.0**
 01. Follow classroom procedures. **TV.04.01**
 02. State and apply general safety rules for operation of equipment. **TV.04.02**
 03. Transport equipment safely and securely. **TV.04.03**
 04. Store equipment in appropriate locations. **TV.04.04**
0. Collaborate with others as an effective member of a television production team. The student will be able to: **TV.05.0**
 01. Understand the job functions of a television production team. **TV.05.01**
 02. Give and follow directions. **TV.05.02**
 03. Function as a member of a production team. **TV.05.03**
 04. Set and adhere to production deadlines established by others. **TV.05.04**
 05. Critique and analyze a production. **TV.05.05**
 06. Analyze lighting needs for a production. **TV.05.06**
 07. Set-up appropriate lighting for a production. **TV.05.07**
0. Use basic television production equipment. The student will be able to: **TV.06.0**
 01. Load, cue, transfer, record and play assets from various media. **TV.06.01**
 02. Set up, turn on and operate a video camera. **TV.06.02**
 03. Set up, turn on, and operate audio production equipment. **TV.06.03**
 04. Identify and demonstrate picture composition principles (e.g. rule of thirds, leading lines, etc.). **TV.06.04**

05. Identify types of video and audio connectors. [TV.06.05](#)
06. Identify, select and demonstrate use of a microphone for situation (pick-up pattern, directionality, etc.). [TV.06.06](#)
07. Identify the qualities of a good audio track. [TV.06.07](#)
08. Identify and select appropriate equipment for a specific production. [TV.06.08](#)
09. Select and place microphones for maximum effect. [TV.06.09](#)
10. Describe set up and operate video and audio input and output devices. [TV.06.10](#)
11. Describe function of video and audio monitors. [TV.06.11](#)
0. Identify lighting needs for a planned production. The student will be able to: [TV.07.0](#)
 01. Describe types of lighting fixtures. [TV.07.01](#)
 02. Identify parts of lighting fixtures and accessories. [TV.07.02](#)
 03. Analyze lighting needs for a production. [TV.07.03](#)
 04. Set-up appropriate lighting for a production. [TV.07.04](#)
0. Perform basic audio and video recording operations. The student will be able to: [TV.08.0](#)
 01. Describe operational parts of a video recording device. [TV.08.01](#)
 02. Operate video recording devices to record and playback. [TV.08.02](#)
 03. Perform studio editing procedures for both audio and video production needs (e.g. switcher, mixer, etc.). [TV.08.03](#)
 04. Transfer and log video. [TV.08.04](#)
0. Operate an editing system. The student will be able to: [TV.09.0](#)
 01. Prepare graphics for production. [TV.09.01](#)
 02. Combine elements into a program. [TV.09.02](#)
 03. Select the best source material, such as voiceover (VO), sound on tape (SOT), and B-roll, to achieve program goals. [TV.09.03](#)
 04. Control audio mix and effects. [TV.09.04](#)
 05. Edit a shot sequence or story for continuity. [TV.09.05](#)
0. Write a broadcast style script. The student will be able to: [TV.10.0](#)
 01. Plan and produce a storyboard. [TV.10.01](#)
 02. Specify steps leading to broadcast scripts. [TV.10.02](#)
 03. Write a broadcast script including location information, camera moves and dialogue. [TV.10.03](#)
0. Stage a set as directed for television production. The student will be able to: [TV.11.0](#)
 01. Dress a set for a television production. [TV.11.01](#)
 02. Inspect for and correct safety concerns. [TV.11.02](#)

03. Sketch a set plan. [TV.11.03](#)
0. Perform lighting activities for a planned production. The student will be able to: [TV.12.0](#)
 01. Describe functions of the master lighting panel and dimmer board. [TV.12.01](#)
 02. Draw and label a diagram for a lighting plot. [TV.12.02](#)
 03. Assemble appropriate lighting using light modifiers (e.g. reflectors, flags, or artificial lighting). [TV.12.03](#)
0. Use basic equipment in a television production studio. The student will be able to: [TV.13.0](#)
 01. Determine appropriate audio and video cables for use. [TV.13.01](#)
 02. Troubleshoot a bad cable connection. [TV.13.02](#)
 03. Set up video and audio monitors for production. [TV.13.03](#)
 04. Describe function of a Camera Control Unit (CCU). [TV.13.04](#)
 05. Describe parts of an audio mixing console. [TV.13.05](#)
 06. Operate a teleprompter. [TV.13.06](#)
 07. Operate an audio mixing console. [TV.13.07](#)
 08. Operate video switcher. [TV.13.08](#)
 09. Direct participants in production of a program. [TV.13.09](#)
 10. Perform on-camera. [TV.13.10](#)
0. Operate television studio audio control systems. The student will be able to: [TV.14.0](#)
 01. Identify and select microphones for production. [TV.14.01](#)
 02. Place microphones for maximum effect. [TV.14.02](#)
 03. Describe parts of sound recording and playback devices. [TV.14.03](#)
 04. Operate sound recording and playback devices. [TV.14.04](#)
 05. Describe parts of an audio mixing console. [TV.14.05](#)
 06. Operate an audio mixing console. [TV.14.06](#)
0. Perform character generation (CG). The student will be able to: [TV.15.0](#)
 01. Create television graphics using industry standard equipment. [TV.15.01](#)
 02. Understand television graphics safe zone and color design. [TV.15.02](#)
 03. Create CGs adhering to the rule of thirds. [TV.15.03](#)
0. Operate editing software. The student will be able to: [TV.16.0](#)
 01. Generate graphics using editing software. [TV.16.01](#)
 02. Combine media elements into a final product. [TV.16.02](#)
 03. Select the best source material to achieve program goals. [TV.16.03](#)
 04. Edit a sequence for continuity. [TV.16.04](#)

0. Utilize the Internet to gather data for a planned production. The student will be able to: [TV.17.0](#)
 01. Use the Internet to research specific information on a production topic as assigned. [TV.17.01](#)
 02. Derive online information for use in graphs and charts in a production. [TV.17.02](#)
0. Demonstrate industry accepted skills for studio and remote production. The student will be able to: [TV.18.0](#)
 01. Demonstrate skills in selecting production topics. [TV.18.01](#)
 02. Determine quality of production topics. [TV.18.02](#)
 03. Operate television studio equipment. [TV.18.03](#)
 04. Adhere to production deadlines. [TV.18.04](#)
0. Assemble a lighting set up using modifiers (E.g. flags, reflectors, diffusers or artificial lights). The student will be able to: [TV.19.0](#)
 01. Create shadow to add depth and dimension using appropriate modifiers. [TV.19.01](#)
0. Demonstrate correct use of equipment used in television production. The student will be able to: [TV.20.0](#)
 01. Properly manage program inventory. [TV.20.01](#)
 02. Demonstrate basic equipment maintenance and management. [TV.20.02](#)
0. Perform intermediate digital audio and video recording and editing operations. The student will be able to: [TV.21.0](#)
 01. Identify and describe different video recording devices. [TV.21.01](#)
 02. Control audio mix and effects. [TV.21.02](#)
 03. Export a file appropriately for a variety of distribution methods. [TV.21.03](#)
 04. Utilize keyframes in editing. [TV.21.04](#)
 05. Perform time code calculations. [TV.21.05](#)

Studio Technician – Course Number: RTT0516

0. Function as a member of a production team. The student will be able to: [TV.22.0](#)
 01. List the job functions of the television production team. [TV.22.01](#)
 02. Operate studio equipment (e.g. CCU, switcher, audio or [TV.22.02](#)
 03. Operate a CCU to correct video signals from studio cameras. [TV.22.03](#)
 04. Execute the four steps of the production process. [TV.22.04](#)
 05. Give and follow directions. [TV.22.05](#)
 06. Set and adhere to production deadlines. [TV.22.06](#)
 07. Receive and respond to client comments and feedback. [TV.22.07](#)
0. Select special effects lighting for a planned production. The student will be able to: [TV.23.0](#)
 01. Use lighting instruments to create the mood for a production. [TV.23.01](#)
 02. Use appropriate lighting accessories (gels, reflectors, etc.) to enhance a production. [TV.23.02](#)
0. Create a variety of television programming. The student will be able to: [TV.24.0](#)
 01. Write, produce, direct and edit editorials. [TV.24.01](#)
 02. Write, produce, direct and edit feature programs. [TV.24.02](#)
 03. Write, produce, direct and edit interview programs. [TV.24.03](#)
 04. Write, produce, direct and edit commercials. [TV.24.04](#)
0. Research and select one or more areas of television production for specialization. The student will be able to: [TV.25.0](#)
 01. Survey and select area(s) for specialization in television production. [TV.25.01](#)
 02. Perform research on position availability, training requirements and post-secondary institutes with programs of study or emphasis in the selected specialization. [TV.25.02](#)
0. Perform advanced audio and video recording and editing operations in a studio situation. The student will be able to: [TV.26.0](#)
 01. Set up digital audio and/or digital video editing equipment and or software. [TV.26.01](#)
 02. Set up digital audio and/or digital video recording and playback devices. [TV.26.02](#)
0. Create a television program. The student will be able to: [TV.27.0](#)
 01. Plan a television program. [TV.27.01](#)
 02. Write a television program. [TV.27.02](#)
 03. Direct a television program. [TV.27.03](#)
 04. Edit a television program. [TV.27.04](#)
 05. Record a television program. [TV.27.05](#)

0. Demonstrate an independent level of proficiency in the selected area of specialization. The student will be able to: [TV.28.0](#)
 01. Demonstrate engagement in all aspects of the production process and assist peers, as needed. [TV.28.01](#)
 02. Identify deficient areas of knowledge/skill level and make plan for improvement. [TV.28.02](#)
 03. Set personal goals for achievement in Television Production. [TV.28.03](#)
 04. Track skill acquisition and progress toward personal goals. [TV.28.04](#)
0. Demonstrate advanced scriptwriting techniques. The student will be able to: [TV.29.0](#)
 01. Write a broadcast script for a program with a minimum 10 minute program length. [TV.29.01](#)
 02. Use the correct script format for the program selected (documentary, drama, infomercial, etc.). [TV.29.02](#)
0. Apply production skills by producing a program. The student will be able to: [TV.30.0](#)
 01. Plan a television program with a minimum 10 minute program length. [TV.30.01](#)
 02. Write a television program with a minimum 10 minute program length. [TV.30.02](#)
 03. Direct a television program with a minimum 10 minute program length. [TV.30.03](#)
 04. Record a television program with a minimum 10 minute program length. [TV.30.04](#)
 05. Edit a television program with a minimum 10 minute program length. [TV.30.05](#)
 06. Distribute the television program with the proper settings for the medium. [TV.30.06](#)
0. Perform advanced digital audio and video recording and editing operations. The student will be able to: [TV.31.0](#)
 01. Organize assets in digital format. [TV.31.01](#)
 02. Set-up video input and output devices. [TV.31.02](#)
 03. Perform insert edits in a non-linear format. [TV.31.03](#)

Television Production Operations – Course Number: RTT0109

0. Perform basic maintenance for lighting instruments. The student will be able to: **TV.32.0**
 01. Identify the correct bulb for a light fixture. **TV.32.01**
 02. Replace a bulb in a fixture. **TV.32.02**
 03. Use the appropriate gear and/or techniques to ensure that the bulbs are not exposed to human contact (avoid oils on light surfaces). **TV.32.03**
0. Perform Electronic News Gathering (ENG) and Electronic Field Production (EFP) equipment functions. The student will be able to: **TV.33.0**
 01. List and describe ENG and EFP equipment components. **TV.33.01**
 02. Set up equipment for field production. **TV.33.02**
 03. Operate equipment during field production segments. **TV.33.03**
0. Translate written script into a full television production. The student will be able to: **TV.34.0**
 01. Produce a television program from a written script. **TV.34.01**
0. Create and maintain a portfolio with embedded production media. The student will be able to: **TV.35.0**
 01. Curate and select work that demonstrates the skills needed in the industry. **TV.35.01**
 02. Select a distribution method that allows access to your work. **TV.35.02**
0. Function at an independent level with proficiency in one area of television production. The student will be able to: **TV.36.0**
 01. Survey and select an area of specialization in television production. **TV.36.01**
 02. Perform at an independent level of proficiency in area of specialization. **TV.36.02**
 03. Create useable end products in the area of specialization. **TV.36.03**
 04. Create training materials in the area of specialization. **TV.36.04**
 05. Demonstrate the correct application and use of the selected area of specialization. **TV.36.05**
0. Research a specific career in television. The student will be able to: **TV.37.0**
 01. Perform career research on a specific area of television production. **TV.37.01**
 02. Write a report on the specific career; include salary, job prospects, and educational requirements. **TV.37.02**
 03. Prepare a résumé for employment in the specific career selected. **TV.37.03**
 04. Demonstrate a high level of proficiency in the specific career area selected. **TV.37.04**