Graphic Print Design 3

Exam Information

Exam number
567

Items
48

Points
55

Prerequisites
Graphic Print Design 1
Graphic Print Design 2

Recommended course length
One year

National Career Cluster
Arts, A/V Technology & Communications

Performance standards
Included (Optional)

Certificate available
Yes

Description

The Graphic Print Design 3 industry certification exam assesses learners' ability to create and produce digital print projects that communicate and promote graphic communication. It evaluates knowledge and skills related to the graphic design and printing industries, including design and layout through both instruction and hands-on experiences. The exam builds upon the knowledge and skills practiced in Graphic Print Design 1 and 2, with closely aligned standards and objectives.

Exam Blueprint

Standard	Percentage of exam
1. History of Graphics and Printing	4%
2. Safe Practices	2%
3. Design Process	22%
4. Color Theory	7%
5. Typography	11%
6. Vector Graphics	18%
7. Raster Graphics	13%
8. Page Layout (Software)	13%
9. Project Management	5%
10. Print Production and Finishing	5%
11. Career Readiness Skills	0%

Standard 1

Students will be able to understand the history and current state of the graphics/printing industry.

Objective 1

1. Define design and its role in graphic communications.
2. Identify print markets and types of print businesses.
3. Explore printing technologies.
4. Define substrate and select the appropriate substrate for a project.

Objective 2

1. Identify the capabilities, advantages, and disadvantages of software programs used in digital print design.
2. Select appropriate software for given print job.
3. Understand the concept of the image carrier for the major printing process.

Standard 1 Performance Evaluation included below (Optional)

Standard 2

Students will be able to understand and demonstrate safe practices that are applicable to lab/studio and production equipment at your school.

Objective 1

1. List safety rules involving chemicals and flammable liquids.
2. Read, comprehend, and follow instructions on warning labels.
3. List the steps to be taken in case of injury in the lab.
4. Identify locations and safety equipment (e.g. first aid kit, eye wash station, MSDS, flammables cabinet)
5. Follow proper safety procedures and dress code when operating equipment.
6. Demonstrate common sense when working with others.

Standard 2 Performance Evaluation included below (Optional)

Standard 3

Graphic Design provides a place for students to explore new ideas, take appropriate risks, creatively problem solve, collaborate, develop aesthetic awareness, explore the world, and to express oneself.

Objective 1

1. Create – conceptualize, generate, develop, and organize artistic ideas. Refine through persistence, reflection, and evaluation.

2. Present/Produce – analyze, interpret, and select artistic work. Develop techniques and concepts to refine work and express meaning through presentation.
3. Respond – perceive, analyze, interpret, articulate, and evaluate work and process.
4. Connect – synthesize and relate knowledge with personal meaning relating to societal, cultural, and historical context to deepen understanding.

Objective 2 Students will demonstrate competency in the design process.

1. Understand the process of planning a document.
2. Research your project (audience, purpose, timeline, page arrangement, and production method)
3. Brainstorming / Differential thinking
4. Creating thumbnail/sketches
5. Use feedback to inform revisions and changes to work.

Objective 3 Students will understand the elements of art.

1. Identify and utilize the following elements of art: line, shape, value, texture, color, space (incl. positive and negative), and form.

Objective 4 Students will understand the principles of design.

1. Identify and utilize the following principles of design: balance (formal/symmetrical, informal/asymmetrical), contrast, emphasis, movement, and unity.

Objective 5

1. Create a design using layout elements (body text, display text, illustration and white space).
2. Demonstrate proper use of Visual Hierarchy – the organization of design assets (color/contrast, scale, & grouping) on the page through which the viewer's eye is guided in the order of intended importance.
3. Demonstrate proper use of rulers, guides, margins, columns, gutters, and rows, and bleeds.
4. Know basic paper sizes and orientations (i.e. letter and tabloid) and understand document output specifications for custom-size documents.
5. Measure linear dimensions in inches (to 1/16" accuracy), points, and millimeters, using both fraction and decimal formats appropriately.
6. Understand the difference between output size and finished size when setting up your document.

Objective 6 Students will understand and demonstrate principles of pre-media (pre-press).

1. Collect project information from the client (client brief).
2. Create mock-up/comp(s) based on client specifications.
3. Review mockup(s) with client (hard-proof).
4. Perform proofing, revision, approval process (soft-proof/PDF).

Objective 7 Students will understand and practice print production workflow.

1. Perform job cost/estimation. Calculate the material required for a given set of specifications.
2. Read job ticket/specifications.
3. Generate an invoice. Calculate financial discounts/markups/fees.
4. Determine appropriate production method(s) and cost-effectiveness based on quantities.
5. Calculate surface area to determine the required substrate size.
6. Identify substrates and their appropriate production methods.
7. Design a package or point-of-purchase display.

Standard 3 Performance Evaluation included below (Optional)

Standard 4

Students will demonstrate competency of color theory in design projects.

Objective 1

1. Understand the proper use of color in publications.
2. Understand the difference between the two basic color modes CMYK and RGB.
3. Create variations of color using tint/shade, patterns, gradients, and opacity.
4. Understand how Bit Depth affects color availability (i.e. 8-bit, 16-bit, 32-bit).

Objective 2

1. Demonstrate understanding of the color wheel.
2. Recognize and apply the following color properties: hue, saturation, and value (tint and shade).
3. Recognize and apply color schemes (complementary, analogous, monochromatic (grayscale), and triadic, tetradic).
4. Effectively use color to communicate a mood or message that is associated with different meanings.
5. Recognize and apply symbolism/emotions in color (i.e. warm and cool colors).

Standard 4 Performance Evaluation included below (Optional)

Standard 5

Students will demonstrate principles of typography when designing graphic projects.

Objective 1 Identify typeface classifications and their uses. (Serif, Sans-serif, Script, Decorative - see https://fonts.adobe.com/fonts

Objective 2

1. Fonts are grouped together in families and given a family name (i.e. Arial, Garamond)
2. Utilize the three basic categories of type styles (normal, bold, italic)
3. Apply typeface design (serif, sans-serif, script, decorative)
4. Install fonts using Adobe fonts and fonts downloaded from other websites
5. Describe the anatomy of type (baseline, ascenders, descenders, serifs, x-height, etc.).
6. Identify caps, lowercase, uppercase, small caps, dingbats, symbols, and ligatures.

7. Measure type size and line weight in points.

Objective 3

1. Apply copyfitting techniques (leading, kerning, tracking, alignment, point size)
2. Apply basic text alignment (left, right, centered, and justified)
3. Describe why it would be necessary to create outlines instead of embedding fonts within a PDF.
4. Describe the difference between a TrueType Font (TTF) and OpenType font (OTF) file.

Standard 5 Performance Evaluation included below (Optional)

Standard 6

Students will demonstrate the correct uses of vector graphics.

Objective 1

1. Demonstrate functional knowledge of keyboard shortcuts/menus/tools and procedures for their use in a digital illustration program.
2. Demonstrate understanding of user interface, preferences, and settings in an illustration program. Change illustration software defaults for project needs. Create a custom workspace and be able to reset software to default settings.
3. Demonstrate proficiency using keystroke and shortcut keys for illustration applications.
4. Demonstrate the correct uses of vector images in design and production projects.

Objective 2

1. Create an original drawing with use of the pen tool.
2. Operate drawing tools to create and manipulate paths (lines and bezier curves) using anchor points, direction handles
3. Demonstrate the proper use of vector graphic formats and save to the appropriate formats (e.g., PDF, AI, EPS, SVG, etc.)
4. Demonstrate the use of selection tools (i.e. selection, direct selection, magic wand, etc.).
5. Demonstrate the proper use of stroke, fill (solid and gradient), and opacity
6. Demonstrate mastery of layers, sublayers, and groups.
7. Perform grouping and ungrouping of objects using shortcuts and sublayers.
8. Transform objects while constraining proportions, Solve ratio and percent equations when resizing images.
9. Use the appropriate graphics program to create a design or logo using manipulated type (rotated, type on a path, expanded, effects, tints and fills, etc.).
10. Create a design using basic shapes and use of transforming tools (i.e. shape tool, shapebuilder, pathfinder, transform, etc.).
11. Demonstrate mastery in final output formats when exporting images for project requirements (compression, resolution) outside a vector illustration program.
12. Create a spot color illustration or logo using Pantone Matching System® (PMS) or another color matching system, and view or print separations.
13. Define trapping and where it should be used.

Standard 6 Performance Evaluation included below (Optional)

Standard 7

Students will demonstrate correct use of raster images.

Objective 1

1. Know basic operations of tools, panels, and menus in a painting/photo editing application (i.e. Adobe Photoshop, GIMP, Affinity Photo, etc.)
2. Demonstrate understanding of user interface, preferences, and settings in a painting/photo editing application. Change painting/photo editing application defaults for project needs. Create a custom workspace, and be able to reset software to default settings.
3. Demonstrate proficiency using keystroke and shortcut keys for painting/photo editing application.
4. Demonstrate the correct uses of raster images in design and production projects.

Objective 2 Define, create, manipulate, and appropriately use bitmap (pixel-based) raster graphics.

1. Identify raster graphic formats and their appropriate use (e.g., JPG/JPEG, GIF, TIFF, BMP, PSD, PNG, RAW, etc.)
2. Acquire image assets (i.e. scan, digital camera, internet search, stock sources, etc.)
3. Import/export images for project requirements (i.e.: compression, 72 ppi (web) vs. 300 ppi (print) resolution)
4. Utilize and explain the following concepts: image resolution, size, and resampling.
5. Demonstrate proficiency in several different destructive vs. non-destructive editing techniques in a painting/photo editing application. Select the most appropriate option for your project.
6. Crop, resize, straighten, and transform an image. Scale a raster image using the proper settings in order to maintain the appropriate resolution for print or digital media.
7. Demonstrate mastery in the use of selection tools (i.e. marquee, magic wand, lasso, etc.).
8. Understand the use of layers, layer masks, and adjustment layers. Use adjustment layers to color-correct an image.
9. Demonstrate proper use of transparent image backgrounds and appropriate formats that support transparency (i.e., PNG, GIF).
10. Identify line artwork, continuous tone in both grayscale and color, and halftone.
11. Demonstrate proficiency using filters and effects.
12. Demonstrate mastery performing photo repairs and retouching (i.e. healing brush, clone stamp, content-aware, etc.).
13. Operate painting and drawing tools. Create color and gradient swatches.
14. Demonstrate the use of type tool and type effects within a painting/photo editing application. Explain the advantages and disadvantages of creating type within a raster program vs. vector software.

Standard 7 Performance Evaluation included below (Optional)

Standard 8

Standard Description

Objective 1

1. Know basic operations of tools, panels, and menus in a page layout application. (i.e. Adobe InDesign, Quark Express, Affinity Publisher, etc.)
2. Demonstrate understanding of user interface, preferences, and settings in a page layout program. Change page layout software defaults for project needs. Create a custom workspace and be able to reset software to default settings.
3. Demonstrate proficiency using keystroke and shortcut keys for page layout application.
4. Demonstrate the correct uses for a page layout application when creating production projects.

Objective 2

1. Import a graphic image and/or text from an existing file into an InDesign publication.
2. Demonstrate the procedure for cropping and resizing frame for digital images, and utilize the frame fitting options in the properties panel.
3. Design and produce a document designating appropriate margins, guides, columns, and gutters.
4. Design and produce a document using spot color and process color.
5. Format text using columns, flowing text to multiple text boxes, and tables.
6. Utilize character styles, paragraph styles, object styles, and table styles on a page layout project.
7. Incorporate tints, reverse type, and manipulated type for effect into a page layout project.
8. Demonstrate use of proofreading (i.e. digital dictionary, spell checker, automatic hyphenation, etc.).
9. Create a computer-generated layout incorporating appropriate marks (i.e. register marks, trim marks, bleed marks, fold lines, die lines, etc.) for printing with the intent of performing a finishing/binding process.
10. Create an imposition for a single design to maximize paper use (i.e. 2-UP, 4-UP, etc.) using page layout software that will be cut/trimmed after printing.
11. Define dummy, imposition, and signature.
12. Create a multi-page layout using master pages for output/printing
13. Create an imposition for a multiple-page document using page layout software.

Standard 8 Performance Evaluation included below (Optional)

Standard 9

Students will understand project management and collaboration.

Objective 1

1. Understand and practice project management skills.
2. Practice asset and file management using folders and naming conventions.
3. Understand file size and storage/back-ups.

Objective 2

1. Develop an awareness of digital and collaborative technologies.
2. Explore collaborating technologies (i.e.: Google Drive, Dropbox, Zoom, FTP, WeTransfer, etc.)

Objective 3

1. Understand links and how to correct broken links in documents.
2. Create a package file of a design project using graphic design software.

Objective 4

1. Export a Portable Document Format (PDF) that can be used for proof and approval.
2. Correctly format and send a file electronically to a specified location.
3. Create a document and publish it digitally. Send a link to this document to a specified recipient and adjust document privileges appropriately.

Standard 10

Students will understand print production and finishing concepts.

Objective 1 Objective Description

1. Students will understand the advantages and disadvantages of each major printing process and be able to select the appropriate printing process for a print job.
2. Create a print-ready PDF including printer marks, bleeds, and page information.
3. Define knockout, overprint, trap, bleed, and slug.
4. Output a digital print using two different ICC profiles.
5. RIP a file for print/output.

Objective 2

1. Define finishing.
2. Identify finishing processes.
3. Define binding.
4. Identify binding processes.

Standard 10 Performance Evaluation included below (Optional)

Standard 11

Students will understand the importance of career readiness skills as it relates to the workplace and outlined in the SkillsUSA Framework – Level 3.

Objective 1

1. Understand and develop collaboration skills.
2. Develop a working relationship with a mentor.
3. Apply supervisory skills.
4. Manage a project and evaluate others.

Objective 2

1. Understand and demonstrate change management skills.
2. Evaluate your career and training goals.
3. Identify and apply conflict resolution skills.
4. Illustrate an organizational structure.
5. Plan and implement a leadership project.

Objective 3

1. Understand how customer service applies to the workplace.
2. Serve as a volunteer in the community.
3. Examine workplace ethics: the role of values in making decisions.
4. Understand the cost of customer service.
5. Develop customer service skills.
6. Maximize customer service skills.

Objective 4

1. Understand and demonstrate career readiness.
2. Market your career choice.
3. Research resume writing.
4. Demonstrate interviewing skills.
5. Predict employment trends.
6. Re-evaluate career goals and establish long-term goals.
7. Construct a job search network.
8. Evaluate professional competencies.
9. Analyze your entry-level job skills.
10. Design and present a lesson plan on an aspect of your career choice.
11. Write an article for a professional journal in your career area.
12. Refine your employment portfolio.

Standard 11 Performance Evaluation included below (Optional)

Workplace Skills

- Communication
- Teamwork
- Customer service
- Dependability
- Legal requirements/expectations
- Digital citizenship (i.e., file management including standard file naming conventions, storage sizes (kb, mb, gb, tb, etc.), saving documents when not to the cloud, exporting files to portable/permanent storage, responsible/work-appropriate use of computer resources, etc.)
- Media literacy
- Understand construction and purposes of media messages
- Evaluate information critically and competently
- Apply a fundamental understanding of the ethical/legal issues surrounding the access and use of media
- Understand the difference between royalty-free and copyrighted images and text
- Understand the process of obtaining and citing permission for copyrighted works
- See Title 17 United States Code -Section 107 Limitation of exclusive rights: Fair use

Graphic Print Design 3

Performance assessments may be completed and evaluated at any time during the course. The following performance skills are to be used in connection with the associated standards and exam. To pass the performance standard the student must attain a performance standard average of 8 or higher on the rating scale. Students may be encouraged to repeat the objectives until they average 8 or higher.

Student's Name: _____

Class: _____

Performance standards rating scale

0	Limited skills	2	→	4	Moderate skills	6	→	8	High skills	10

Standard 2 – Safe Practices **Score:**

- Pass a general lab safety test.

Standard 3 – Design Process **Score:**

- Students will be able to use planning, elements of art, and principles of design to compose a print design.

Standard 4 – Color Theory **Score:**

- Students will use color to communicate a mood or message in a print project.

Standard 5 – Typography **Score:**

- Demonstrate proper typography concepts in a cohesive print design.

Standard 6 – Vector Graphics **Score:**

- Students will create a vector image to be used in a production project.

Standard 7 – Raster Graphics **Score:**

- Students will create a raster graphic using multiple layers and a variety of tools to be used in a production project.

Standard 8 – Page Layout (Software) **Score:**

- Students will create a page layout project using skills from the standards above for print production.

Standard 10 – Print Production and Finishing **Score:**

- Students will finish or bind a product after printing using a major printing process.

Standard 11 – Career Readiness Skills **Score:**

- Participate in a Utah SkillsUSA (or other CTSO) competition representing your school.

Performance standard average score:

Evaluator Name: _____

Evaluator Title: _____

Evaluator Signature: _____

Date: _____