# STRANDS AND STANDARDS
## GRAPHIC PRINT DESIGN 1


Learning that works for Utah
CTE®

## Course Description

This course prepares individuals to apply technical knowledge in the areas of design & layout, related computer and software, safety, printing processes, finishing & binding, and professional skills. The course includes instruction in printing, printing equipment and operation, computer hardware and software, digital imaging, print preparation, and electronic prepress.

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|---|---|
| **Intended Grade Level** | 10-12 |
| Units of Credit | 0.5 |
| Core Code | 40.10.00.00.042 |
| Concurrent Enrollment Core Code | 40.10.00.13.042 |
| Prerequisite | None |
| Skill Certification Test Number | 562 |
| Test Weight | 0.5 |
| **License Area of Concentration** | CTE and/or Secondary Education 6-12 |
| **Required Endorsement(s)** | |
| Endorsement 1 | Production Graphics |

# STRAND 1
**Overview**
**Students will be able to understand the current state of the graphics/printing industry.**

## Standard 1
Define design and its role in graphic communications.
- Identify print markets and types of print businesses.
- Explore printing technologies.
- Understand the role and range of substrates available.

# STRAND 2
**Safe Practices**
**Students will be able to understand and demonstrate safe practices that are applicable to lab/studio and production equipment at your school.**

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

## Performance Skills
- Pass a general lab safety test.

# STRAND 3
**Design Process**
**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.**

## Standard 1
- **Create** – conceptualize, generate, develop and organize artistic ideas. Refine through persistence, reflection, and evaluation.
- **Present/Produce** – analyze, interpret, and select artistic work. Develop techniques and concepts to refine work and express meaning through presentation.
- **Respond** – perceive, analyze, interpret, articulate, and evaluate work and process.
- **Connect** – synthesize and relate knowledge with personal meaning relating to societal, cultural, and historical context to deepen understanding.

## Standard 2
Students will understand the design process.
- Understand the process of planning a document.
- Research your project (audience, purpose, timeline, page arrangement, and production method)
- Brainstorming / Differential thinking
- Creating thumbnail / sketches
- Use feedback to inform revisions and changes to work.

### Standard 3
Students will understand the elements of art.
- Identify and utilize the following elements of art: line, shape, value, texture, color, space (incl. positive and negative), and form.

### Standard 4
Students will understand the principles of design.
- Identify and utilize the following principles of design: balance (formal/symmetrical, informal/asymmetrical), contrast, emphasis, movement, and unity.

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

# STRAND 4
**Color Theory**
**Students will understand color theory.**

### Standard 1
- Understand the proper use of color in publications.
- Understand the difference between the two basic color modes CMYK and RGB
- Create variations of color using tint/shade, patterns, gradients, and opacity.

### Standard 2
Develop a basic understanding of the color wheel
- Recognize and apply the following color properties: hue, saturation, and value (tint and shade)
- Recognize color schemes (complementary, analogous, monochromatic (grayscale), and triadic, tetradic)
- Understand that colors are used to communicate a mood or message using different colors that are associated with different meanings
- Recognize and apply symbolism/emotions in color (i.e. warm and cool colors).

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

# STRAND 5
**Typography**
**Students will understand principles of typography.**

### Standard 1
Identify typeface classifications and their uses. (Serif, Sans-serif, Script, Decorative)
Resource: https://fonts.adobe.com/fonts

### Standard 2
Fonts are grouped together in families and given a family name (i.e. Arial, Garamond)
- Utilize the three basic categories of type styles (normal, bold, italic)
- Apply typeface design (serif, sans-serif, script, decorative)
- Install fonts using Adobe fonts and fonts downloaded from other websites
- Describe the anatomy of type (baseline, ascenders, descenders, serifs, x-height, capline, etc.).
- Understand point size.
- Understand paragraph style and text alignment (justified, center, flush left/right)

## Performance Skills
- Students will create a print project demonstrating knowledge of typography.

# STRAND 6
**Vector Graphics**
**Students will understand and create vector graphics**

### Standard 1
- Know basic operations of tools, panels, and menus in a drawing/illustration application (i.e. Adobe Illustrator, Corel Draw, lnkscape, Affinity Designer, etc.).
- Become familiar with user interface, preferences, and settings in an illustration program.
- Understanding basic keystroke and shortcut keys for illustration application.
- Understand the advantages and disadvantages of vector images.

### Standard 2
- Understand, create, and manipulate vector graphics.
- Operate drawing tools to create and manipulate paths (lines and bezier curves) using anchor points, direction handles
- Identify vector graphic formats and their appropriate use (e.g., PDF, Al, EPS, SVG, etc.)
- Understand the different selection tools (i.e. selection, direct selection, magic wand, etc.).
- Understand and apply stroke, fill (solid and gradient), and opacity
- Understand and create layers.
- Perform grouping and ungrouping of objects.
- Transform objects while constraining proportions
- Use type tools
- Use basic shape tools to create a design.
- Understand final output formats when exporting images for project requirements (compression, resolution) outside a vector illustration program.

## Performance Skills
Students will create a vector image to be used in a production project.

# STRAND 7
**Raster Graphics**
**Students will understand and edit raster images.**

### Standard 1
- Know basic operations of tools, panels, and menus in a painting/photo editing application (i.e. Adobe Photoshop, or other comparable photo-editing programs etc.)
- Become familiar with user interface, preferences, and settings in an painting/photo editing application
- Understanding basic keystroke and shortcut keys for painting/photo editing application.
- Understand the advantages and disadvantages of raster images.

### Standard 2
Define, create, manipulate, and appropriately use bitmap (pixel based) raster graphics.
- Identify raster graphic formats and their appropriate use (e.g., JPG/JPEG, GIF, TIFF, BMP, PSD, PNG, RAW, etc.)
- Acquire image assets (i.e. scan, digital camera, internet search, stock sources, etc.)

- Import/export images for project requirements (i.e.: compression, 72 ppi (web) vs. 300 ppi (print) resolution)
- Understand the following concepts: image resolution, size, and resampling.
- Understand destructive vs. non-destructive editing in a painting/photo editing application.
- 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.
- Understand the use of selection tools (i.e. marquee, magic wand, lasso, etc.).
- Understand the use of layers, layer masks, adjustment layers. Use adjustment layers to color correct an image.
- Understand transparent image backgrounds and formats that support transparency (i.e., PNG, GIF).
- Identify line artwork, continuous tone in both grayscale and color, and halftone.
- Understand filters and effects.
- Understand how to perform photo repairs and retouching (i.e. healing brush, clone stamp, content-aware, etc.).
- Operate painting and drawing tools.
- Understand the use of type tool in painting/photo editing application.

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

## STRAND 8
**Project Management**
**Students will understand project management and collaboration.**

### Standard 1
- Understand and practice project management skills.
- Practice asset and file management using folders and naming conventions.
- Understand file size (kb, mb, gb, tb, etc.) and storage/back-ups.

### Standard 2
- Develop an awareness of digital and collaborative technologies.
- Understand file formats that can be used universally across platforms (SVG, PDF, PNG)
- Explore collaborating technologies (i.e.: Google Drive, Dropbox, Zoom, FTP, WeTransfer, etc.)

### Standard 3
- Understand links and how to correct broken links in documents

## STRAND 9
**Print Production**
**Students will understand print production concepts.**

### Standard 1
- Classify the digital printing processes (inkjet, laser, large format, dye sublimation, direct- to-garment, etc.)
- Understand the benefits of digital printing.
- Identify digital printing media.
- Understand common U.S. paper sizes (letter, tabloid, legal, A4, etc.)

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## Performance Skills
Students will print a product using a digital printing process.


## STRAND 10
**SkillsUSA – Level 1**
**Students will understand the importance of career readiness skills as it relates to the workplace and outlined in the SkillsUSA Framework – Level 1.**

### Standard 1
- Understand and demonstrate the attitude of cooperation.
- Develop awareness of cultural diversity and equality issues.
- Demonstrate effective communication with others.
- Apply team skills to a group project.
- Identify and apply conflict resolution skills.

### Standard 2
- Understand and demonstrate the ability of being resourceful and innovative.
- Discover self-motivation techniques and establish short-term goals.
- Measure/modify short-term goals.
- Review a professional journal and develop a three- to five-minute presentation.

### Standard 3
Plan for your future career.
- Complete a self-assessment and identify individual learning styles.
- Define future occupations.
- Identify the components of an employment portfolio. List proficiency in program competencies.
- Complete a survey for employment opportunities.
- Create a job application.
- Assemble your employment portfolio.
- Employability skills: evaluate program comprehension.

### Standard 4
Understand and demonstrate the ability to manage a project.
- Apply team roles/skills to a group project. (graphic artist, project manager, subject matter expert/editor, programmer, etc.)
- Observe and critique a meeting.
- Demonstrate business meeting skills.
- Explore supervisory and management roles in an organization.
- Identify and apply conflict resolution skills.
- Demonstrate evaluation skills.
- Manage a project and evaluate others.

## Performance Skills
- Attend a SkillsUSA (or other CTSO) meeting at your school.

## 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

## Skill Certification Test Points by Strand

| Test Name | Test # | Number of Test Points by Strand | | | | | | | | | | Total Points | Total Questions |
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| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |