STRANDS AND STANDARDS
SCREEN PRINTING TECHNOLOGY

Learning that works for Utah
CTE®

Course Description

This course is designed to provide students with the knowledge to create, produce and reproduce visual graphics that communicate to an audience. Develop the knowledge and skills relative to the graphic design & screen-printing industries. Includes instruction and hands-on experiences in design & layout, digital prep of designs, and multiple color printing processes on various substrates. Provides an overview of the screen-printing and print making industries on the commercial level. Instruction includes the use of industry standard graphics software with the Adobe Creative Cloud applications.

Intended Grade Level	10-12
Units of Credit	0.5
Core Code	40.10.00.00.048
Concurrent Enrollment Core Code	40.10.00.13.048
Prerequisite	Graphic Print Design 1
Skill Certification Test Number	566
Test Weight	0.5
License Area of Concentration	CTE and/or Secondary Education 6-12
Required Endorsement(s)	
Endorsement 1	Graphics/Printing Technology

STRAND 1

Students will be able to understand the introduction to the graphics/screen printing industry.

Standard 1

Define graphic communications.

Standard 2

Define screen printing and identify products produced.

Standard 3

List in order the technical production flow from idea to finished product.

Standard 4

Identify alternative decorating methods (i.e. heat transfer, dye sublimation, pad printing, discharge, direct-to-garment, etc.).

Standard 5

Comprehend basic screen-printing technology and equipment (i.e. automatic, manual, dryers, exposure units, etc.).

Standard 6

Define substrate.

STRAND 2

Students will be able to understand and demonstrate safe practices.

Standard 1

List safety rules involving chemicals and flammable liquids.

Standard 2

Read, comprehend and follow instructions on warning labels.

Standard 3

List the steps to be taken in case of injury in the lab.

Standard 4

Identify locations of first aid kit, eye wash station, MSDS, and safety equipment.

Standard 5

Follow proper safety procedures and dress code when operating equipment.

Standard 6

Demonstrate common sense when working with others.

Standard 7

Pass general lab safety test.

STRAND 3
Students will be able to understand and demonstrate design processes.

Standard 1
Understand the design process (thumbnails, rough, comp, etc.).

Standard 2
Define the principles and elements of design.

Standard 3
Identify typeface classifications and their uses.

Standard 4
Describe the anatomy of type (baseline, ascenders, descenders, serifs, etc.).

Standard 5
Understand point size, leading, and alignment.

Standard 6
Create a design for printing, applying the design process.

STRAND 4
Students will be able to understand and demonstrate computer skills.

Standard 1
Identify software interface features (i.e. panels, menus, dialog boxes).

Standard 2
Select appropriate software types (i.e. word processing, page layout, paint, draw) and related applications.

Standard 3
Compare the difference between raster and vector images.

Standard 4
Identify the difference between spot colors and process colors.

Standard 5
Define input and output devices (i.e. scanner, digital camera, laser printer, imagesetter, dye sublimation).

Standard 6
Identify and determine appropriate file formats.

Standard 7
Identify and determine appropriate uses of the registration swatch.

Standard 8
Identify registration marks.

Standard 9
Install fonts.

Standard 10
Demonstrate appropriate file storage and management.

Standard 11
Perform basic math skills.

Standard 12
Output film positive(s).

Standard 13
Output color separations.

Standard 14
Digitally produce line art.

Standard 15
Demonstrate adherence to copyright and trademark laws.

STRAND 5
Students will be able to understand and demonstrate digital illustrations.

Standard 1
Demonstrate operation of tools, panels, preferences, and menus in an illustration application (i.e. Illustrator).

Standard 2
Demonstrate the use of selection tools (i.e. selection, direct selection, magic wand, etc.)

Standard 3
Understand the advantages and disadvantages of vector images.

Standard 4
Comprehend process and spot colors.

Standard 5
Solve ratio and percent equations.

Standard 6
Define trapping.

Standard 7
Measure linear dimensions in inches and fractions of an inch to 1/16".

Standard 8
Perform fraction to decimal conversions.

Standard 9
Create or trace a drawing/photograph with use of the pen tool.

Standard 10
Edit a vector image, modifying anchor points and paths.

STRAND 6
Students will be able to understand and demonstrate screen prep and stencil systems.

Standard 1
Identify screen fabric classifications, mesh count, and frame types.

Standard 2
Identify stencil types (i.e. hand-cut, indirect, direct, capillary stencils, liquid).

Standard 3
Apply and use a direct emulsion stencil after degreasing.

Standard 4
Identify the image and non-image area on an image carrier.

Standard 5
Understand variables that effects print size (platen, screen frame, substrate, stencil, film).

Standard 6
Demonstrate proper registration techniques when exposing screens.

Standard 7
Identify image and non-image areas on a screen-printing stencil.

Standard 8
Properly block out screen for printing.

STRAND 7
Students will be able to understand and demonstrate screen printing production.

Standard 1
Identify squeegee durometer, blades, and handles.

Standard 2
Demonstrate proper registration techniques when screen printing.

Standard 3
Demonstrate correct printing placement and print quality.

Standard 4
Choose appropriate type ink type for the substrate (i.e. plastisol, water-based, enamel/acrylic).

Standard 5
Identify substrates used in the screen-printing process.

Standard 6
Prepare ink and apply to screen.

Standard 7
Set appropriate off contact to control image quality (snap-off).

Standard 8
Demonstrate correct squeegee technique during printing.

Standard 9
Identify variables that affect print quality (Screen tension, mesh, squeegee durometer, ink, etc.).

Standard 10
Dry or cure printed objects using appropriate equipment.

Standard 11
Produce a printed single-color screen print.

Standard 12
Produce a printed multiple color screen print.

Standard 13
Calculate production costs for given job specifications.
Understand and demonstrate screen printing production.
- Identify squeegee durometer, blades, and handles.
- Demonstrate proper registration techniques when screen printing.
- Demonstrate correct printing placement and print quality.
- Choose appropriate type ink type for the substrate (i.e. plastisol, water-based, enamel/acrylic).
- Identify substrates used in the screen-printing process.
- Prepare ink and apply to screen.
- Set appropriate off contact to control image quality (snap-off).
- Demonstrate correct squeegee technique during printing.
- Identify variables that affect print quality (Screen tension, mesh, squeegee durometer, ink, etc.).
- Dry or cure printed objects using appropriate equipment.
- Produce a printed single color screen print.
- Produce a printed multiple color screen print.
- Calculate production costs for given job specifications.

STRAND 8
Students will be able to understand and demonstrate screen reclaiming/cleanup.

Standard 1
Demonstrate proper ink cleanup after printing.

Standard 2
Demonstrate proper stencil removal.

Standard 3
Properly reclaim (remove stencil and dehaze) a screen.

Standard 4
Thoroughly clean entire work area (i.e. equipment, squeegee, screen, tables, etc.).

Standard 5
Inspect and verify screen conditioning after reclaiming.

STRAND 9

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 skills to a group project.
- Observe and critique a meeting.
- Demonstrate business meeting skills.
- Explore supervisory and management roles in anorganization.
- Identify and apply conflict resolution skills.
- Demonstrate evaluation skills.
- Manage a project and evaluate others.

Performance Skills

1. Understand and demonstrate safe practices.
   - Pass general lab safety test.
2. Understand and demonstrate design processes.
   - Create a design for printing, applying the designprocess.
3. Understand and demonstrate computer skills.
   - Output film positive(s).
   - Output color separations.
   - Digitally produce line art.
   - Demonstrate adherence to copyright and trademark laws.
4. Understand and demonstrate digital illustrations.

- Create or trace a drawing/photograph with use of the pen tool.
- Edit a vector image, modifying anchor points and paths.
5. Understand and demonstrate screen prep and stencil systems.
    - Properly block out screen for printing.
6. Understand and demonstrate printing processes.
    - Print a product.
7. Understand and demonstrate screen reclaiming/cleanup.
    - Thoroughly clean entire work area (i.e. equipment, squeegee, screen, tables, etc.).
    - Inspect and verify screen conditioning after reclaiming.

Skill Certification Test Points by Strand

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