Graphic Communications, Advanced

EXAM INFORMATION

Items

56

Points

63

Prerequisites

GRAPHIC COMMUNICATIONS, INTERMEDIATE

Grade Level

10-12

Course Length

ONE SEMESTER

Career Cluster

ARTS, A/V TECHNOLOGY, AND COMMUNICATION

**Performance Standards**

INCLUDED

Certificate Available

YES

DESCRIPTION

This course is designed to provide students with theory and hands-on experiences relative to the printing industry. The skills of the printing industry will be built upon by giving more real-world experiences in the areas of digital file preparation, image capture digital file output, press operations, binding and finishing, measurement, and basic math.

EXAM BLUEPRINT

STANDARD	PERCENTAGE OF EXAM
1- Graphic Communications	21%
2- Safe Practices	6%
3- Mathematical Concepts	24%
4- Measuring Problems	3%
5- Digital File Preparation	30%
6- Capturing Images	14%
7- Digital File Output Processes	2%
8- Offset Press Operation (Optional)	
9- Finishing and Binding (Optional)	
10- Job Skills (Optional)	
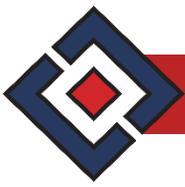
STANDARD 1
STUDENTS WILL UNDERSTAND THE ROLE OF GRAPHIC COMMUNICATIONS

Objective 1	Define the role of printing as a means of graphic communications.
Objective 2	Identify the key developments in the history of printing.
Objective 3	Identify print markets and types of print businesses.
Objective 4	Identify and describe major printing processes.
Objective 5	Identify the products produced by each major printing process.
Objective 6	List the advantages and disadvantages of each major printing process.
Objective 7	List in order the technical production flow from idea to finished product.
Objective 8	Identify major occupations in the printing industry and their responsibilities.
Objective 9	Identify and describe basic printing equipment.
Objective 10	Read and interpret production information from a job ticket.

Standard 1 Performance Evaluation included below (Optional)

STANDARD 2
STUDENTS WILL UNDERSTAND AND DEMONSTRATE SAFE PRACTICES

Objective 1	List safety rules involving flammable liquids.
Objective 2	List the steps to be taken in case of injury in the lab.
Objective 3	Identify location(s) of first aid kit(s).
Objective 4	Identify location(s) of eyewash station(s).
Objective 5	Identify where protective safety equipment is located.
Objective 6	Follow proper safety procedures when operating equipment.
Objective 7	Follow approved shop dress code for safe operation.
Objective 8	Pass general lab safety test.
Objective 9	Read, comprehend, and follow instructions on warning labels and MSDS.
Objective 10	Demonstrate common sense when working with others.

Standard 2 Performance Evaluation included below (Optional)

STANDARD 3
STUDENTS WILL DEMONSTRATE BASIC MATHEMATICAL CONCEPTS AS THEY APPLY TO GRAPHIC COMMUNICATIONS

Objective 1	Solve addition, subtraction, multiplication, and division whole number problems.
Objective 2	Solve addition, subtraction, multiplication, and division fraction problems.
Objective 3	Solve addition, subtraction, multiplication, and division decimal problems.
Objective 4	Solve fractional to decimal conversion problems.
Objective 5	Solve decimal to fractional conversion problems.
Objective 6	Solve decimals to percent conversion problems.
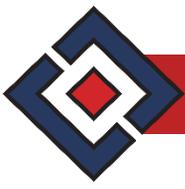
Objective 7	Solve basic linear measure problems.
Objective 8	Calculate basic paper cuts from stock sheet.
Objective 9	Solve points to inches conversion problems.
Objective 10	Solve for ratios.
Objective 11	Calculate the appropriate DPI for scanning various originals.
Objective 12	Solve cost-calculating problems.

Standard 3 Performance Evaluation included below (Optional)

STANDARD 4
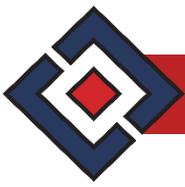STUDENTS WILL UNDERSTAND AND DEMONSTRATE MEASURING PROBLEMS

Objective 1	Measure linear dimensions for printing materials in inches and fraction of inches.
Objective 2	Measure linear dimensions in centimeters and millimeters.
Objective 3	Measure type in points.
Objective 4	Measure copy for reduction and enlargement.
Objective 5	Measure elements in page layout program.

Standard 4 Performance Evaluation included below (Optional)

STANDARD 5
STUDENTS WILL DEMONSTRATE DIGITAL FILE PREPARATION

Objective 1	Identify type fundamentals and their uses.
Objective 2	Identify the fundamentals of the digital prepress workflow.
Objective 3	Identify the importance of image resolution.
Objective 4	Identify various digital information storage and their uses.
Objective 5	Identify various desktop publishing applications and their uses.
Objective 6	Design a page with appropriate margins, formatting, guides, trims, and folds.
Objective 7	Import text into a page layout program.
Objective 8	Import an image into a page layout program.
Objective 9	Identify different file formats and their uses.
Objective 10	Identify the difference between continuous tone and line art images.
Objective 11	Identify and describe halftone.
Objective 12	Define and identify bleeds.
Objective 13	Describe the difference between spot and process color.
Objective 14	Create a spot color in a page layout program.
Objective 15	Describe the difference between RGB and CMYK.
Objective 16	Create a multi-page layout in a page layout program.
Objective 17	Define the difference between raster and vector.
Objective 18	Create or edit a vector image in an image-editing program.
Objective 19	Edit a raster image in an image-editing program.

Objective 20   Demonstrate keyboard typing skills.

Standard 5 Performance Evaluation included below (Optional)

STANDARD 6
STUDENTS WILL UNDERSTAND AND DEMONSTRATE HOW TO CAPTURE AN IMAGE

Objective 1   Identify various originals and their scanner settings (i.e. Line Art, CT, Printed, and Text).
Objective 2   Understand the effect of DIP on file size.
Objective 3   Identify basic scanning hardware.
Objective 4   Identify basic digital camera hardware.
Objective 5   Capture an image using a scanner or digital camera.

Standard 6 Performance Evaluation included below (Optional)

STANDARD 7
STUDENTS WILL DEMONSTRATE FILE OUTPUT PROCESSES

Objective 1   Define trapping and its purpose.
Objective 2   Explain the purpose of a folding dummy.
Objective 3   Define imposition and signatures.
Objective 4   Identify computer-to-plate systems.
Objective 5   Identify image and non-image areas of an offset plate.
Objective 6   Produce a plate for offset printing.
Objective 7   Define registration marks and their uses.
Objective 8   Describe the purpose of a proof.
Objective 9   Output color separations from a page layout program.
Objective 10   Output a proper bleed from a page layout program.

Standard 7 Performance Evaluation included below (Optional)

STANDARD 8 (Optional)
STUDENTS WILL BE ABLE TO OPERATE AN OFFSET PRESS SAFELY

Objective 1   Identify offset press parts and operations.
Objective 2   Identify the cylinders of an offset press.
Objective 3   Identify safety and operation procedures for printing on an offset press.
Objective 4   Define the principles of offset lithography.
Objective 5   Compare the differences between digital printing and offset printing.
Objective 6   Describe printing applications.
Objective 7   Describe the technologies and equipment used in digital printing.
Objective 8   Perform a setup for printing of a single-color job.
Objective 9   Produce a single-color job using an offset press.
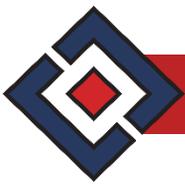
Standard 8 Performance Evaluation included below (Optional)

STANDARD 9 (Optional)

STUDENTS WILL BE ABLE TO SAFELY FINISH AND BIND PRINTED PRODUCTS

Objective 1	Identify operational and safety parts of a paper cutter.
Objective 2	Identify grain direction of paper.
Objective 3	Make accurate paper cuts using a mechanized paper cutter.
Objective 4	Identify basic paper types and weights.
Objective 5	Identify padding equipment and materials.
Objective 6	Produce a pad of paper.
Objective 7	Identify stapling and stitching equipment.
Objective 8	Produce side and saddle-stitched/stapled product.
Objective 9	Identify punching/drilling equipment and materials.
Objective 10	Produce a mechanical, or three-ring bound product.
Objective 11	Identify folding equipment and basic folds.
Objective 12	Produce a single fold using folding equipment.
Objective 13	Identify different binding methods and applications (i.e. perfect, case, sewn).
Objective 14	Identify various finishing methods and applications (i.e. die cutting stamping, embossing).
Objective 15	Demonstrate basic paper jogging techniques.

Standard 9 Performance Evaluation included below (Optional)

STANDARD 10 (Optional)

STUDENTS WILL KNOW HOW TO COMPLETE A JOB APPLICATION AND DEMONSTRATE INTERPERSONAL SKILLS

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Objective 1	Identify personal interests and learning styles.
Objective 2	Complete a self-assessment.
Objective 3	Discover self-motivation techniques.
Objective 4	Determine individual time-management skills.
Objective 5	Define future occupations.
Objective 6	Develop awareness of cultural diversity.
Objective 7	Recognize benefits of doing community service.
Objective 8	Demonstrate effective communication with others.
Objective 9	Demonstrate proper work ethics and habits.
Objective 10	Identify components of an employment portfolio.

Standard I0 Performance Evaluation included below (Optional)

PERSONAL DEVELOPMENT

Objective 1   As a participating member of the SkillsUSA[1] student organization, complete the SkillsUSA Level 3 Professional Development Program.

[1] SkillsUSA PDP requirements—recommended
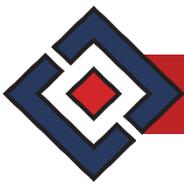
Graphic Communications, Advanced Performance Standards (Optional)

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**.

Students Name_____

Class_____

PERFORMANCE RATING SCALE

0   Limited Skills   2   →   4   Moderate Skills   6   →   8   High Skills   10
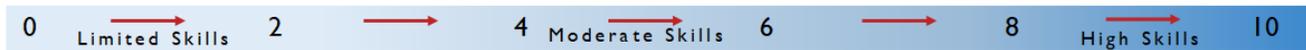
STANDARD 1 Graphic Communications   Score:
- ☐ Define the role of graphics in the free enterprise system
- ☐ Identify print markets and types of print businesses
- ☐ Identify and describe the major printing process and products produced by each
- ☐ List in order the technical production flow from idea to finished product
- ☐ Identify and describe basic printing equipment

STANDARD 2 Safe Practices   Score:
- ☐ List safety rules involving chemicals and flammable liquids
- ☐ Identify location(s) of first aid kit(s)
- ☐ Identify where protective safety equipment is needed
- ☐ Follow approved shop dress code for safe operation
- ☐ Pass general lab safety test
- ☐ List steps to be taken in case of injury in lab
- ☐ Identify location(s) of eye wash station(s)
- ☐ Follow proper safety procedures when operating equipment
- ☐ Read, Comprehend, and follow instructions on warning labels and MSDS
- ☐ Demonstrate common sense working with others

STANDARD 3 Mathematical Concepts   Score:
- ☐ Basic linear measurement
- ☐ Point to inches conversion
- ☐ Ratios
- ☐ Fractional to decimal conversions, vice versa
- ☐ Cost Calculating
- ☐ Calculate basic paper cuts from stock sheets
- ☐ Addition, subtraction, multiplication, and division of whole numbers, fractions, and decimals
- ☐ Calculate the appropriate DPI for scanning various originals
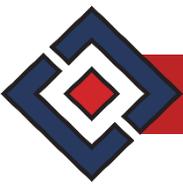
STANDARD 4 Digital File Preparation   Score:

- ☐ Copy for reduction and enlargement
- ☐ Linear dimensions in centimeters and millimeters
- ☐ Types in points
- ☐ Elements in a page layout program
- ☐ Linear dimensions for printing materials in inches and fraction of inches

STANDARD 5 Page Layout   Score:

- ☐ Type fundamentals and their uses
- ☐ Importance of image resolution
- ☐ Various desktop publishing applications and their uses
- ☐ Describe a halftone
- ☐ Import an image into a page layout program
- ☐ Describe the difference between spot and process color
- ☐ Create a Multi-page layout in page layout program
- ☐ Define differences between raster and vector
- ☐ Fundamentals of the digital prepress workflow
- ☐ Various digital information storage and their uses
- ☐ Different file formats and their uses
- ☐ Import text into a page layout program
- ☐ Define and identify bleeds
- ☐ Demonstrate keyboard typing skills
- ☐ Create a spot color in a page layout program
- ☐ Describe differences between RGB and CMYK
- ☐ Edit a raster image in an image editing program
- ☐ Create or edit a vector image in an image editing program
- ☐ Design a page with appropriate margins, formatting, guides, trims, and folds

STANDARD 6 Capturing Images   Score:

- ☐ Identify basic scanning hardware
- ☐ Identify basic digital camera hardware
- ☐ Understand the effect of DPI on file size
- ☐ Use a scanner or digital camera
- ☐ Identify various originals and its scanner settings (e.g., Line art, CT, printed, text)

STANDARD 7 Digital File Output Processes   Score:

- ☐ Define trapping and its purpose
- ☐ Define imposition and signatures
- ☐ Produce a plate for offset printing
- ☐ Describe the purpose of a proof
- ☐ Identify image/non-image areas on an offset printing plate
- ☐ Explain the purpose of a folding dummy
- ☐ Identify computer-to-plate systems
- ☐ Define registration marks and their uses
- ☐ Color separations view page layout program
- ☐ Proper bleed from a page layout program
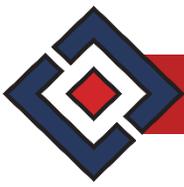
STANDARD 8 Offset Press   Score:

- ☐ Identify basic offset press parts/operations
- ☐ Define the principles of offset lithography
- ☐ Perform setup printing a single-color job
- ☐ Identify the cylinders of an offset press
- ☐ Describe printing applications
- ☐ Perform basic cleanup of an offset press
- ☐ Identify basic safety and operation procedures for printing on an offset press
- ☐ Compare the differences between digital printing and offset printing
- ☐ Describe the technologies and equipment used in digital printing
- ☐ Produce a single-color hob using an offset press

STANDARD 9 Finishing and Binding Procedures   Score:

- ☐ Identify grain direction of paper
- ☐ Identify padding equipment and materials
- ☐ Identify stapling and stitching equipment
- ☐ Identify folding equipment and basic folds
- ☐ Identify basic paper types and weights
- ☐ Produce a single fold using folding equipment
- ☐ Show basic paper jogging techniques
- ☐ Identify different binding methods and applications (e.g. Perfect, case, sewn)
- ☐ Identify various finishing methods and applications (e.g., Die-cutting, stamping, embossing)
- ☐ Make accurate paper cuts using a mechanized paper cutter
- ☐ Identify operational/safety parts of a paper cutter
- ☐ Produce a side and saddle stitched/stapled product
- ☐ Identify punching/drilling equipment and materials
- ☐ Produce a mechanical or three-ring bound product

STANDARD 10 Professional Skills in the Workplace   Score:

- ☐ Identify personal interests/learning styles
- ☐ Complete a self-assessment
- ☐ Discover self-motivation techniques
- ☐ Determine individual time management skills
- ☐ Define future occupations
- ☐ Develop awareness of cultural diversity
- ☐ Recognize benefits of community service
- ☐ Show effective communication with others
- ☐ Demonstrate proper work ethics/habits
- ☐ Identify components of an employee portfolio

PERFORMANCE STANDARD AVERAGE SCORE: