

Job Ready Assessment Blueprint

Graphic Production Technology



Test Code: 4242 / Version: 01

## General Assessment Information

### Blueprint Contents

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**Test Type:** The Graphic Production Technology industry-based credential is included in NOCTI's Job Ready assessment battery. Job Ready assessments measure technical skills at the occupational level and include items which gauge factual and theoretical knowledge. Job Ready assessments typically offer both a written and performance component and can be used at the secondary and post-secondary levels. Job Ready assessments can be delivered in an online or paper/pencil format.

**Revision Team:** The assessment content is based on input from secondary, post-secondary, and business/industry representatives from the states of Delaware, Missouri, New Jersey, and Pennsylvania.



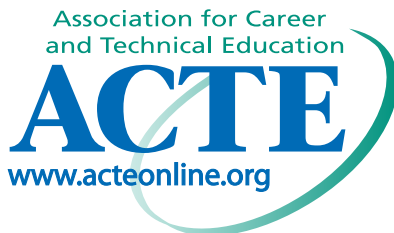
10.0305- Graphic and Printing  
Equipment Operator,  
General Production



Career Cluster 3- Arts, A/V Technology,  
and Communications



51-5112.00- Printing  
Machine Operators



The Association for Career and Technical Education (ACTE), the leading professional organization for career and technical educators, commends all students who participate in career and technical education programs and choose to validate their educational attainment through rigorous technical assessments. In taking this assessment you demonstrate to your school, your parents and guardians, your future employers and yourself that you understand the concepts and knowledge needed to succeed in the workplace. Good Luck!



**NATIONAL COLLEGE CREDIT RECOMMENDATION SERVICE**  
University of the State of New York - Regents Research Fund

In the lower division  
baccalaureate/associate degree  
category, 3 semester hours in  
Graphic Production Technology

## Written Assessment

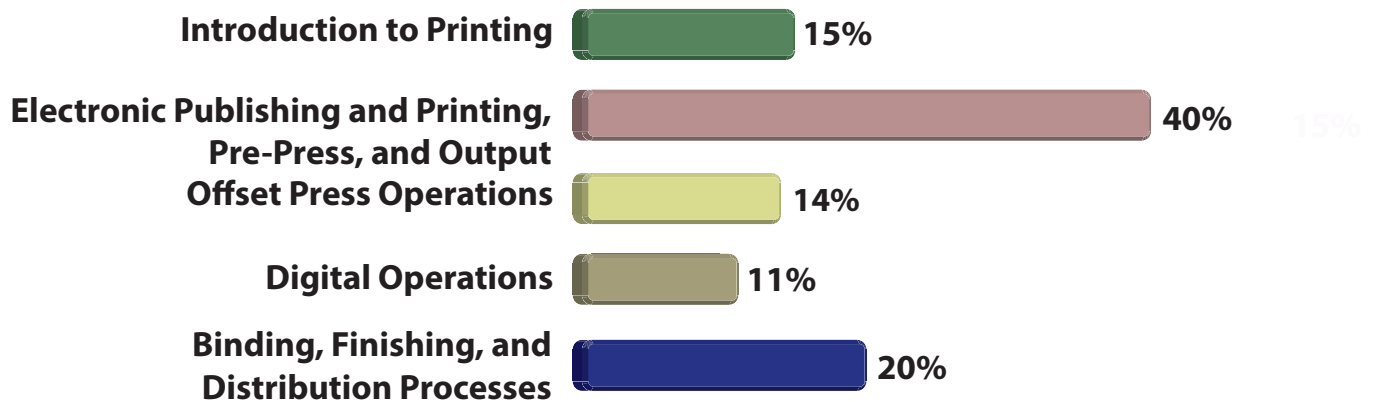
NOCTI written assessments consist of questions to measure an individual's factual theoretical knowledge.

**Administration Time:** 3 hours

**Number of Questions:** 198

**Number of Sessions:** This assessment may be administered in one, two, or three sessions.

### Areas Covered



## Specific Standards and Competencies Included in this Assessment

### **Introduction to Printing**

- Demonstrate knowledge of relevant OSHA standards, environmental protection, and safety procedures
- Explain the importance of quality control procedures, consistency of production, and statistical process control (SPC) as it relates to customer satisfaction
- Identify workflow, processes (including software), and equipment in graphic communications
- Demonstrate mathematical concepts relating to print, estimating materials/service costs, and preparing work orders
- Understand legal aspects of copyrighted materials
- Understand/define/articulate printing terminology
- Describe various methods of graphic reproduction (e.g., offset, screen, intaglio, gravure, letterpress)

### **Electronic Publishing and Printing, Pre-Press, and Output**

- Identify and demonstrate principles of layout and design
- Identify type terminology, styles, and uses
- Identify proofreader's marks, proofread and mark-up copy
- Make conversions using printer systems of measurement
- Demonstrate steps in the creative process (e.g., thumbnail, rough, comprehensive, mechanical)
- Crop, scale, and manipulate images
- Prepare elements for a variety of imposition layouts
- Demonstrate basic computer knowledge (e.g., storage, troubleshooting, peripherals)
- Demonstrate proficiency in computer graphics and page layout applications
- Demonstrate knowledge of pre-flighting electronic files
- Output color separations from digital files

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## Specific Standards and Competencies (continued)

### Electronic Publishing and Printing, Pre-Press, and Output (continued)

- Edit and manipulate single-color, spot color, and process color jobs
- Adjust work to meet the needs of target audience
- Demonstrate ability to calculate paper costs for job, waste included
- Differentiate between web, multimedia, and print graphics
- Exhibit knowledge of PDF workflow
- Demonstrate knowledge of different color modes and color management (e.g., CMYK and RGB)
- Exhibit familiarity with output devices
- Exhibit familiarity with input devices

### Offset Press Operations

- Identify components of an offset press and demonstrate knowledge of operating procedures
- Demonstrate understanding of press chemistry (e.g., ink tack, fountain solutions, solvents, dryers)
- Describe general maintenance and cleaning of an offset press
- Demonstrate knowledge of mixing PMS colors
- Describe auxiliary operations performed on press (e.g., perforation, scoring)
- Troubleshoot offset printing problems (e.g., scumming, pilling, chalking, roller stripping, ghosting, glazing)
- Demonstrate ability to print in register



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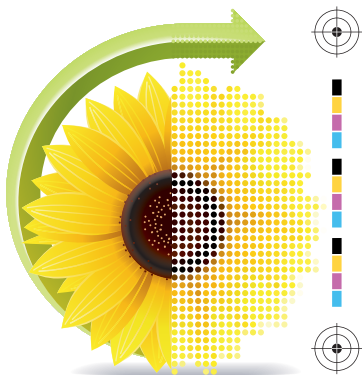
## Specific Standards and Competencies (continued)

### Digital Operations

- Identify components of a digital press or other digital device and demonstrate knowledge of operating procedures
- Demonstrate understanding of digital consumables (e.g., toner, fuser, waste)
- Describe general maintenance and cleaning of digital devices
- Describe auxiliary operations performed using inline/nearline devices (e.g., perforation, scoring)
- Demonstrate proper handling of various print media
- Troubleshoot digital printing problems (e.g., toner scatter, paper jams)
- Explain the importance of the RIP (Raster Image Processor) device and its functions

### Binding, Finishing, and Distribution Processes

- Set up, adjust, and operate a paper cutter
- Set up, adjust, and operate a paper folder
- Demonstrate understanding of perforating, scoring, embossing, and die-cutting
- Perform preventive maintenance on bindery and finishing equipment
- Set up and operate a stitcher
- Set up, adjust, and operate a paper drill
- Explain different methods of binding and assembling (e.g., collating and gathering)
- Explain assembly of carbonless paper forms
- Calculate number of small sheets cut from large sheets
- Identify properties and use of various paper stocks
- Demonstrate knowledge of carrier options, postal sorting, and packaging requirements



## Sample Questions

**An item is protected by copyright when it is**

- A. registered with the U.S. Copyright Office
- B. registered with the Library of Congress
- C. published
- D. created

**Landscape page orientation is**

- A. vertical
- B. enlarged
- C. horizontal
- D. diagonal

**A scanner is a/an**

- A. input device
- B. copy printout device
- C. output device
- D. DPI program

**To "air" stock means to**

- A. expose the stock, uncovered, to hot temperatures
- B. handle stock, allowing air between sheets
- C. adjust air blasts to separate sheets
- D. run the stock through the press without printing it

**Antique, smooth, and coated refer to**

- A. recycled paper
- B. paper sizes
- C. paper colors
- D. paper finishes

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### Sample Questions (continued)

**The procedure of lock-out/tag-out must occur**

- A. when equipment is being protected from theft
- B. whenever a job is completed
- C. when waiting for job approval
- D. when machinery is unsafe or inoperable

**On an offset press, the image is transferred from the plate to the**

- A. blanket
- B. image carrier
- C. impression cylinder
- D. paper

**Scumming is a condition whereby the**

- A. image area plugs with ink
- B. plate picks up ink in the non-image areas
- C. ink does not cover evenly
- D. lines and halftone dots gradually appear

**What is a “French fold”?**

- A. buckle fold
- B. two right-angle folds
- C. parallel fold
- D. bone fold

**When paper is misfed or wrinkles repeatedly, the first thing to do is to**

- A. ensure the proper paper is loaded correctly and not filled above the MAX line
- B. ensure that there is enough fuser agent in the machine
- C. check that the color space used in the file is compatible with the press
- D. verify that the toner is seated properly



## Performance Assessment

NOCTI performance assessments allow individuals to demonstrate their acquired skills by completing actual jobs using the tools, materials, machines, and equipment related to the technical area.

**Administration Time:** 2 hours and 15 minutes

**Number of Jobs:** 2

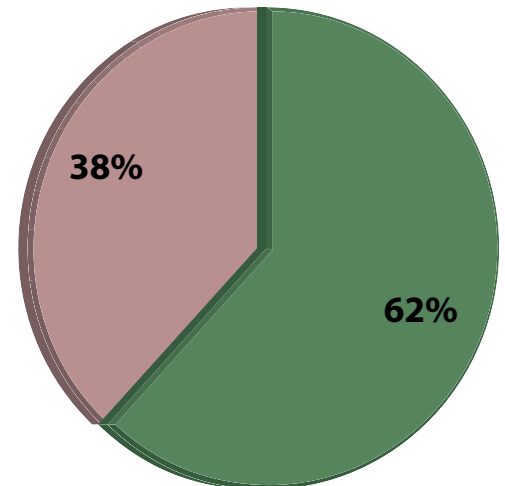
### Areas Covered:

#### **62% Design and Pre-Press**

Participants will plan and create original artwork, create thumbnail sketches and apply design principles; select correct software, prepare a rough layout to scale, set up the page and use an appropriate font, output a comprehensive proof, proofread and output final copy.

#### **38% Paper Drill, Shrink Wrap, Package, and Prepare for Pick-Up**

Participants will scan the provided images, print copies, cut 80 postcards, paper drill or punch a hole, and shrink wrap or paper wrap. Prepare and print a mailing label.



## Sample Job

### Design and Pre-Press

**Maximum Time:** 1 hour and 30 minutes

**Participant Activity:** The participant will create artwork similar to the images provided; prepare three thumbnail sketches based on acceptable design principles; prepare a rough layout to scale from the design selected; use the rough generated to determine the most appropriate available software for the job; set up the page and select the most appropriate available font(s) for the job; create an image similar to the illustration provided based on the design using the most appropriate software; output a comprehensive proof; proofread and make corrections; apply necessary adjustments and printer's marks; output a final copy for evaluator approval; output separations; and submit the work to the evaluator.



# Notes