

Digital Production Printing Blueprint

The PrintED/SkillsUSA Digital Production Printing competencies encompass the knowledge and skill sets a student should master to exhibit proficiency in digital production printing. The PrintED/SkillsUSA Digital Production Printing Career Essentials Assessment test questions align with the PrintED/SkillsUSA Digital Production Printing competencies.

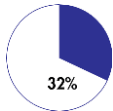
This Blueprint contains the subject matter content for the Career Essentials - Assessment.

Note: To fully prepare for the [Digital Production](#) SkillsUSA Championships contest, refer to the current year's SkillsUSA Championships Technical Standard, now included with your SkillsUSA Professional Membership. If you need help in accessing this benefit, contact the SkillsUSA Customer Care Team at 844-875-4557 or customercare@skillsusa.org.

Standards and Competencies

Competencies are weighted throughout the assessment. The percent shown is the weight of the competency. There are 50 questions per assessment.

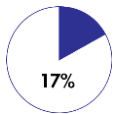
Technology



- Describe the imaging process of production toner based (electrophotography)
 - a. Electrostatic Charging
 - b. Laser or LED imaging
 - c. Toner attraction
 - d. Transfer
 - e. Fusing
- Contrast the environmental impact of operating digital versus offset equipment
- Discuss the purpose of a Raster Image Processor (RIP)
- Illustrate a flowchart of steps on how a RIP prepares a file for printing
- Identify features and functions of a RIP
- Describe the sheet fed paper transport of a digital press
- Contrast friction feed versus vacuum feed
- Describe roll fed paper transport of a digital press
- Compare sheet fed versus roll fed paper transport systems
- Describe duplexing of a sheet
- Identify common finishing capabilities built into digital printer
- Describe the imaging process of offset
- Identify common finishing capabilities built into digital printer
- Define monochrome digital printing
- Define highlight digital printing
- Define full color digital printing
- Cite examples of print applications by monochrome, highlight and full color presses
- Discuss the use of pantone colors in digital printing
- Explain how the simulation of Pantone colors are produced by CMYK on a digital press
- Discuss special colors and coatings used in digital printing
- Describe the characteristics of paper that are used for digital printing versus offset
- List common weights of paper used in digital printing
- List common sizes of paper that are used in digital printing
- Explain the importance of grain direction
- Describe maximum "imaging area" versus maximum substrate size
- Describe the importance of paper conditioning prior to running the digital press
- Recognize the types of paper that are unsuitable for digital printing

- Compare the print characteristics of digital, offset and ink jet imaging technologies
 - a. What are the types of suitable substrates used in each technology
 - b. How solids reproduction compare
 - c. How screen tints compare
 - d. How halftone resolution compares
- Identify types of specialty paper that are used with digital printing
- Review range of printing speeds of digital printers
- Discuss Logical Pages per Minute
- List five vendors of digital production printing equipment
- Assess the quality differences of toner or inkjet ink versus offset ink.
- Estimate the acquisition costs and running costs of digital, offset and ink jet equipment
- List manpower skill requirements of operating a Digital versus offset press
- Describe the imaging process of inkjet

Printed Products



- Compare the speed of completing a long run project with digital or offset printing
- Assess in-line finishing advantages of digital printing
- Develop possible customer objection and responses to using digital print
- Identify common types of printed products produced with digital printing
- Define on Demand
- Evaluate the benefits of producing exact quantities when needed versus having to inventory printed materials
- Evaluate the benefits of using variable data printing
- Recognize the levels of complexity of variable data printing from name and address to cross-media communications
- Explain the reasons that a customer would use variable data printing
- List suppliers of Variable Data Software
- Define Cross-Media Communications
- Discuss the role of digital printing in a cross-media campaign
- Evaluate the benefits to a business of a cross-media campaign that includes digital print.
- Assess the cost and production time advantage of no platemaking with digital print
- Define Print on Demand
- Explain the reasons that a customer would use variable data printing
- Collect examples of cross-media communications that use digital print

Workflows



- Recognize common quality defects of digital printing
- Determine the benefits of proper storage of files for reprints
- Determine the benefits of proper storage of files for reprints
- List print shop file Standard Operating Procedures (SOP)
- Define the Adobe Portable Document Format (PDF)
- Review the PDF settings of creating a file for digital print
- Discuss how bleeds are created when creating a project for digital printing
- Determine how a bound document is created for digital printing
- Review bitmap resolution requirements when creating a project for digital printing
- Review color management capabilities of a digital printer
- Contrast color management capabilities of digital printing versus offset
- Explain the use of a spectrophotometer
- Evaluate color output of digital and offset printing

- Identify common methods of transporting a file from customer to print shop
- Describe FTP (File Transport Protocol)
- Describe a Web to Print system
- List common features and functions of a Web to Print system
- Define preflighting of a file
- Record common file issues discovered during preflight
- Define imposition
- Compare imposition that is performed in prepress versus at digital printer
- Explain how proofs are used in a digital printing workflow
- Identify the steps to produce traditional proofs versus one made on a digital printer
- Evaluate the quality of a traditional proof versus one made on a digital printer
- Define print queue
- Determine how a print queue is created
- Explain how print queues can be optimized by a digital press operator
- Review print shop quality control Standard Operating Procedures (SOP)
- Discuss quality systems used in digital printing operation (ISO, Six Sigma, TQM)

Operations



- Describe a job ticket
- Determine job specifications from a job ticket
- Program digital printer based on job specifications from a job ticket
- Discuss Job Definition Format (JDF)
- Review maintenance procedures for a digital press
- Review maintenance procedures for a digital press
- Compare maintenance procedures of digital printing versus offset
- Describe calibration procedures for a digital press
- Compare calibration procedures of digital printing versus offset
- List common work responsibilities of digital press operator
- Identify skill requirements of a digital press operator
- Determine sources of training received by digital press operator
- Define a production metric used in the printing industry
- Discuss capacity and production planning
- Review common production metrics that are used to gauge performance of digital printing operation
- Compare production metrics of digital printing and offset printing
- Determine ideal temperature and humidity of digital pressroom
- Cite common printing issues that occur when temperature and humidity are not ideal
- Design a physical layout of digital pressroom
- Identify skill requirements of a digital press operator

Finance

- Explain why digital printing is less expensive when low quantities are required
- Identify the costs of a digital press operation
- Identify the costs of a digital press operation
- Review the costs of several digital presses
- Review the costs of digital printing accessories
- Define leasing
- Compare leasing versus a purchase of a digital press
- Review a leasing contract
- Discuss Cost per Copy

- List items covered under maintenance terms
- Review a maintenance contract
- Define estimating a printed project
- Review estimating procedures of digital printing
- Develop a typical estimate for several different types of projects
- Identify computer aided estimating systems.
- Review estimating procedures of digital printing

Math and Measurement

- Solve addition of whole number problems – two and three digits
- Solve addition of whole number problems – two and three digits
- Solve multiplication of whole numbers – two and three digits

SkillsUSA is of the understanding that students who take the PrintED/SkillsUSA Digital Production Printing Career Essentials Assessment have been enrolled in a digital production printing training program with the following competencies embedded within the curriculum.