

Digital File Preparation & Digital File Output Blueprint

The PrintED/SkillsUSA Digital File Preparation competencies encompass the knowledge and skill set a student should master to exhibit proficiency in digital file preparation. The PrintED/SkillsUSA Digital File Preparation Career Essentials Assessment test questions align with the PrintED/SkillsUSA Digital File Preparation competencies.

Note: To fully prepare for 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.

Type



- Compare the physical characteristics of basic type classifications a. Serif b. Sans Serif
- Identify the physical characteristics of type classifications a. Bold b. Italic c. Roman
- Identify the physical characteristics of typographic characters a. Uppercase b. Lowercase c. Small Caps d. Ligatures e. Glyphs f. Subscript g. Superscript
- Identify typographic ems and ens and their associated dashes
- Explain the use of points and picas as measurement increments
- Identify the physical characteristics of type a. X-Height b. Mean-Line c. Baseline d. Ascender e. Descender f. Leading(spacing) g. Tracking h. Kerning
- Compare display (headline) type by their point sizes and type styles
- Recognize text alignment a. Flush Left b. Flush Right c. Center d. Justify
- Compare the differences of typeface technologies
- Describe font substitution when outputting a printed page
- Assess the effectiveness of a communication piece using different applications of type

Page Layout and Design



- Review Professional Page Layout software applications
- Review office/home-based software applications
- Demonstrate the use of computer menus, shortcut keys, and panels in an instructor specified page
- Create a multi-page document using a. Number of pages b. Facing pages c. Page size and orientations d. Columns e. Margins f. Bleeds g. Slugs
- Utilize page layout software to place text from a word-processed file into a multi-page document
- Demonstrate the use of a digital dictionary and spell checker
- Demonstrate changing type attributes using a. Font b. Size c. Style d. Color
- Demonstrate changing type attributes using a. Flush Left b. Flush Right c. Center d. Justify e. Justification (top, center, bottom justified)
- Describe widow and orphan formatting
- Explain the purpose of style sheets

- Identify masthead (header and footer)
- Explain the use of a graphic box in page layout software
- Explain the use of color tints
- Plan the steps of preflighting, proofing (hard and soft), packaging all files, and creating an output-appropriate PDF
- Discuss the use of variable data in a printing project

Image Capture and Editing



- Review professional Image Editing software applications a. Adobe Photoshop
- Identify different type of graphics a. Line art b. Vector c. Raster d. Continuous tone
- Compare examples of various graphic file formats and their extensions a. TIFF (Tagged Image File format) b. EPS (Encapsulated PostScript) c. BMP (Bitmap) d. PSD (Native Adobe Photoshop) e. JPG (Joint Photographic Experts Guild) f. AI (Native Adobe Illustrator)
- Explain dots per inch (Output device resolution)
- Explain Lines Per inch Resolution (Halftone)
- Discuss minimum resolution requirement for different reproduction devices a. Screen display b. Digital Press c. Offset Press d. Wide Format Inkjet Press
- Identify potential quality issues of improper relationships of Pixels per Inch (PPI), Dots per Inch (DPI) and Lines per Inch (LPI) on final output quality
- Create correct depth and resolution files on line art and continuous tone images using a scanner
- Discuss the RGB (Red, Green, Blue) additive color model
- Discuss spot color model (Pantone)
- Describe image cloning
- Explain the use of Optical Character Recognition (OCR)
- Review capabilities of adjusting color balance (gray balance) in an image editing software program
- Create a vector using manipulated type

Illustration



- Review the capabilities of professional illustration software applications a. Adobe Illustrator
- Demonstrate the use of computer menus, shortcut keys, and panels in Illustration software
- Describe a vector graphic, bitmap image and vector graphic
- Create a single-color vector graphic
- Create a vector graphic to include tints, fills, strokes, and color
- Convert a bitmap image to a vector

PDF



- Discuss the Adobe Portable Document Format (PDF)
- Determine the benefits of using a PDF format within the graphic communications industry
- Evaluate the methods to create PDF files
- Discuss PDF/x standards

Prepress



- Describe a job ticket
- Describe job specifications from a job ticket/docket
- Discuss the steps of preflighting a print file
- Identify common quality issues that are found during preflight process
- Discuss the use of trapping an image for print
- Describe software options for creating traps
- Identify imposition styles a. Sheetwise b. Work and Turn c. Work and Tumble d. Multiple Up e. Perfecting
- Describe a folding dummy for print

Color Management



- Discuss the role of color management in a print workflow
- Describe color management techniques used in different steps of a print workflow a. Monitor b. Proofer c. Digital Press d. Offset Press e. Wide Format Inkjet Press
- Explain the use of an ICC profile in a print workflow
- Create International Color Consortium (ICC) profile
- Describe Undercolor Removal (UCR)
- Describe Gray Component Replacement (GCR)
- Define proofing a. Hard b. Soft

File Systems and File Management



- Describe computer networking within a work environment
- Describe font management procedures on a computer workstation
- Describe font management procedures on a computer workstation
- Discuss procedures for organizing and managing fonts on a workstation
- Discuss disaster recovery file backup options
- Describe file storage/transfer devices a. CD-ROM b. DVD c. Flash Memory (USB) d. Tape e. External Hard Drive f. Networked backup drives g. Offsite cloud backup
- Demonstrate the use of a file compression utility for file storage or transfer
- Describe metadata

Digital File Output



- Describe a Raster Image Processor (RIP)
- Describe the characteristics of plate material for offset printing a. Paper b. Plastic c. Metal Describe the capabilities, specifications and functions of a platesetter
- Create a flowchart of workflow steps when outputting to offset press
- Explain how print queues can be optimized by a digital press operator
- Identify quality control marks a. register marks b. trim marks c. fold lines d. color bars e. plate control
- Explain tone value increase (TVI) and its impact on printed materials
- Demonstrate outputting a file to a digital device
- Discuss quality control measurement devices a. Densitometer b. Colorimeter c. Plate Readers d. Spectrophotometer
- Discuss print shop quality process control Standard Operating Procedures (SOP)
- Review safety considerations when using computer-to-plate, digital production printer or digital press
- Read and interpret material safety data sheets (MSDS)
- Describe industry workflow automation guidelines a. International Cooperation for Integration of Processes in Prepress, Press, and Postpress (CIP4) b. Job Definition Format (JDF)

Math and Measurement



- Measure a Helvetica typeface in points using the appropriate measuring tools
- Solve division of decimal problems - two and three digits
- Solve decimals to percent conversion problems
- Solve basic linear measurement problems

SkillsUSA is of the understanding that students who take the PrintED/SkillsUSA Digital File Preparation Career Essentials Assessment have been enrolled in a digital file preparation training program with the following competencies embedded within the curriculum.

Identified Academic Skills

Math Skills

- Use fractions to solve practical problems
- Simplify numerical expressions
- Solve practical problems involving percents
- Solve single variable algebraic expressions

Language Arts Skills

- Provide information in conversations and in group discussions



- Provide information in oral presentations
- Demonstrate use of nonverbal communication skills: eye contact, posture and gestures using interviewing techniques to gain information
- Demonstrate knowledge of appropriate reference materials

Connections to National Standards

State-level academic curriculum specialists identified the following connections to national academic standards.

Math Standards

- Geometry
- Measurement
- Problem solving
- Communication
- Connections
- Representation

Source: NCTM Principles and Standards for School Mathematics. To view high school standards, visit: <http://www.nctm.org/standards/content.aspx?id=16909>.



Science Standards

- Understands the structure and properties of matter
- Understands the sources and properties of energy
- Understands forces and motion
- Understands the nature of scientific inquiry

Source: McREL compendium of national science standards. To view and search the compendium, visit: www.mcrel.org/standards-benchmarks/.

Language Arts Standards

- Students read a wide range of print and nonprint texts to build an understanding of texts, of themselves, and of the cultures of the United States and the world; to acquire new information; to respond to the needs and demands of society and the workplace; and for personal fulfillment. Among these texts are fiction and nonfiction, classic and contemporary works.
- Students apply a wide range of strategies to comprehend, interpret, evaluate and appreciate texts. They draw on their prior experience, their interactions with other readers and writers, their knowledge of word meaning and of other texts, their word identification strategies and their understanding of textual features (e.g., sound-letter correspondence, sentence structure, context, and graphics).
- Students adjust their use of spoken, written and visual language (e.g., conventions, style, and vocabulary) to communicate effectively with a variety of audiences and for different purposes.
- Students use a variety of technological and information resources (e.g., libraries, databases, computer networks and video) to gather and synthesize information and to create and communicate knowledge.
- Students use spoken, written and visual language to accomplish their own purposes (e.g., for learning, enjoyment, persuasion and the exchange of information).

Source: IRA/NCTE Standards for the English Language Arts. To view the standards, visit: www.readwritethink.org/standards/index.html.