

## **Graphic Design**

Graphic design is the art of communication, stylizing, and problem-solving through the use of type, space and image. The field also requires creativity and the knowledge of ever changing technology.

Graphic designers use various methods to create and combine words and images to provide a visual representation of ideas and messages. The designer works with a variety of creation tools in order to convey a visual message from a client to a particular audience.

Content within this topic include the principles and philosophies of design with technical construction techniques and tools.

Content for this topic is segmented into nine subject areas:

- A. Introduction
- B. Principles and Elements of Design
- C. Type
- D. Page Layout
- E. Image Capture
- F. Digital Illustration
- G. Business Skills
- H. Portfolio
- I. Math and Measurement

### **A. Introduction**

Graphic Communications is an exciting and vital field. All communications start with the design, regardless of the final print or display technology. The career path and opportunities for graphic designers is expansive. In addition, there are related positions in marketing, sales and operations where graphic design skills are valuable.

The following competencies introduce graphic design as a career opportunity within the graphic communications industry.

- 1) Identify occupations that are related to graphic design
- 2) Discuss the typical roles and responsibilities of graphic designers
- 3) Interview an experienced graphic designer to determine
  - a. Why they chose their profession
  - b. Educational and professional training required
  - c. Types of communications used on the job, e.g. print, digital, large format, point of sale
  - d. Additional career information
  - e. Tools and software used

## **B. Principles and Elements of Design**

A message can be communicated in a print or digital format, or a combination of both. Transforming ideas into effective graphic design requires fulfilling customer requirements with a pleasing output that meets their needs.

The following competencies introduce graphic design principals and elements that are typically used by graphic designers.

- 4) Describe the basic principles of design
  - a. Unity
  - b. Contrast
  - c. Proportions
  - d. Balance
  - e. Emphasis
  - f. Rhythm
- 5) Discuss the basic principles of design from an instructor specified graphic design example
  - a. Unity
  - b. Contrast
  - c. Proportions
  - d. Balance
  - e. Emphasis
  - f. Rhythm
- 6) Describe the basic elements of design
  - a. Line
  - b. Shape
  - c. Direction
  - d. Size
  - e. Texture
  - f. Value
  - g. Color
- 7) Discuss the basic elements of design from an instructor specified graphic design example
  - a. Line
  - b. Shape
  - c. Direction
  - d. Size
  - e. Texture
  - f. Value
  - g. Color
- 8) Discuss the following elements of an instructor specified graphic design concept example
  - a. Message
  - b. Color

- c. Typography
  - d. Images
  - e. Layout
- 9) Explain the “Design Thinking” six step process 1. Understand, 2. Observe, 3. Define, 4. Ideate, 5. Prototype, and 6. Test
  - 10) Use brainstorming techniques to develop ideas for a design concept based on specified client need and target audience
  - 11) Explain design rationale for the creative choices implemented during the design process, e.g., thumbnails, roughs, mock up, comprehensive layout (comp)
  - 12) Develop a range of design concepts by sketching digital or physical examples
  - 13) Discuss the relationship between message, color, typography, images, and layout
  - 14) Describe primary, secondary, and tertiary colors including hue, tint, value and shade
  - 15) Describe the effect of light and distance on color
  - 16) Discuss additive (Red, Green, Blue) and subtractive (Cyan, Magenta, Yellow, Black) color
  - 17) Discuss how a monitor and other visual technologies (printing, billboard, smartphone) affect color representations and perceptions
  - 18) Explain spot color / Pantone Color System (PMS)
  - 19) Demonstrate color balance by adjusting intensity of color to render specific colors, the method often referred to as gray balance, neutral balance, or white balance
  - 20) Describe color relationships
    - a. Complementary
    - b. Split-Complementary
    - c. Double-Complementary
    - d. Analogous
    - e. Monochromatic
  - 21) Discuss color relationships using an instructor specified example that can be found in a popular magazine
  - 22) Critique an instructor supplied layout and suggest improvements
  - 23) Explain the concept of corporate branding
  - 24) Discuss a corporate style guide example
  - 25) List the elements of corporate branding
  - 26) Discuss how corporate branding affects consumer recognition and behavior
  - 27) Discuss a time-based concept
  - 28) Create a storyboard to demonstrate a time-based concept e.g. infographic

### **C. Type**

Type is a fundamental element in graphic design and is a mixture of art and science. The proper choice of a typeface and its manipulation can be the deciding factor in an effective design.

The following competencies discuss the characteristics and the impact of type on a design piece.

- 29) Identify the five classic typefaces, their classifications and uses to include: Garamond, Baskerville, Bodoni, Century, and Helvetica
- 30) Define Points and Picas
- 31) Identify

- a. x-height
  - b. Meanline
  - c. Baseline
  - d. Ascenders
  - e. Descenders
  - f. Serifs
  - g. Leading (spacing)
- 32) Discuss the roles of x-height, meanline, baseline, ascenders, descenders, serifs and leading or spacing in measuring and designing with type
- 33) Illustrate sample paragraph(s) using x-height, meanline, baseline, ascenders, descenders, serifs, leading
- 34) Identify
- a. Caps
  - b. Lowercase
  - c. Uppercase
  - d. Small Caps
  - e. Ligatures
- 35) Illustrate sample paragraph(s) using caps, lowercase, uppercase, small caps, and ligatures
- 36) Identify
- a. Dingbats
  - b. Bullets
  - c. Rules
  - d. Glyphs
  - e. Symbols
- 37) Discuss the uses of dingbats, bullets, rules, glyphs and symbols in publications
- 38) Distinguish between display (headline) type and body (text) type by their point sizes, styles, and uses
- 39) Identify type styles within a type or font family
- a. Roman
  - b. Bold
  - c. Italic
  - d. Condensed
- 40) Identify letter
- a. Spacing
  - b. Tracking
  - c. Kerning
  - d. Baseline shift
  - e. Horizontal scale
- 41) Identify
- a. Flush left – ragged right
  - b. Flush right – ragged left
  - c. Centered
  - d. Justified

- e. Force justified
  - f. Widows
  - g. Orphans
- 42) Illustrate a sample paragraph(s) using flush left–ragged right, flush right–ragged left, centered, justified, force justified, widows and orphans, caps, lowercase, uppercase, small caps, and ligatures
- 43) Discuss appropriate type for use in a print versus digital medium

#### **D. Page Layout**

There are many techniques and software tools available to arrange visual elements on a page. The graphic designer composes the page based on end user experience and customer objectives. During page layout, the type of media must be considered.

The following competencies review the elements and application of factors that impact a page layout

- 44) Identify within an instructor specified project examples of
- a. Text blocks
  - b. Graphics
  - c. Frames
  - d. Headings
  - e. Drop caps
  - f. Text wraps
- 45) Design a document using specified text blocks, graphics, frames, headings, drop caps and text wraps
- 46) Identify within an instructor specified project examples of
- a. Margins
  - b. Formatting
  - c. Gutters
  - d. Register marks
  - e. Trim marks
  - f. Fold lines
- 47) Describe trim size; bleed size; and live, and safety area of a page
- 48) Set page of text with specified margins, formatting, gutters, and leading
- 49) Prepare multi page layout incorporating specified register marks, trim marks and fold lines
- 50) Design a document using specified fonts, styles, margins, indents, tabs, and colors
- 51) Proofread and edit an instructor supplied document using graphic design industry accepted methods. Make corrections/adjustments as specified by instructor
- 52) Describe
- a. Grids
  - b. Templates
  - c. Master pages
  - d. Paragraph style sheets
  - e. Character style sheets

- 53) Create multi page document using specified grids, templates, master pages, paragraph style sheets, and character style sheets
- 54) List the advantages/disadvantages of hard proofing versus soft proofing
- 55) Demonstrate the proper procedures for printing a black/white proof or a color proof to a laser or inkjet printer
- 56) Define a native (source) file
- 57) Preflight and package a native file
- 58) Produce a print-ready Portable Document Format (PDF) using page layout software
- 59) Review United States Postal Service (USPS) design requirements
- 60) Discuss United States Postal Service (USPS) design requirements
- 61) Collect examples of standard ad sizes (full-page, half-page, and quarter-page ads) from publications
- 62) Demonstrate the use of appropriate page layout software for an instructor specified print or digital project
- 63) Create a design concept that can be used in various media
  - a. Web
  - b. Digital distribution
  - c. Print

#### **E. Image Capture**

The formation of a graphic requires either photographing an original, or creation on a computer. Once the original is in a digital format, the graphic can be manipulated with image editing software.

The following competencies describe the different types of graphics, how they are created and manipulated to change their visual appearance.

- 64) Describe types of graphics
  - a. Raster (bitmap)
  - b. Vector
  - c. Line art
- 65) 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. PNG (Portable Network Graphic)
  - f. INDD (Native InDesign file)
  - g. JPG (Joint Photographic Experts Guild)
  - h. AI (Native Adobe Illustrator)
- 66) Capture instructor specified digital images using a scanner and/or digital camera
- 67) Demonstrate using an image editing software program
  - a. Scaling
  - b. Resolution
  - c. Tone control

- d. Cropping
- e. Color correction
- 68) Describe minimum resolution requirements for different reproduction devices
  - a. Screen display
  - b. Digital Press
  - c. Offset Press
  - d. Wide Format Inkjet Press
- 69) Scale a raster image using the proper settings in order to maintain the appropriate resolution for print or digital media
- 70) Evaluate high and low resolution images on an instructor specified printed page
- 71) Select and download a digital image from a stock photography website or other media that has appropriate resolution for intended output
- 72) Demonstrate the use of Optical Character Recognition (OCR) software to make text editable
- 73) Discuss digital asset management
- 74) Describe file naming conventions

#### **F. Digital Illustration**

A vector illustration consists of a computer generated graphic that is a series of mathematical equations. Because of this method of construction, a vector illustration can be highly manipulated and can be enlarged without loss of quality.

The following competencies discuss how digital illustrations are manipulated and created.

- 75) Examine, using a magnifying glass, the differences between printed raster and vector graphics
- 76) Discuss the uses of
  - a. Rotated
  - b. Circled
  - c. Extended
  - d. Tints and fills
- 77) Use an appropriate graphics program to manipulate type (rotated, circled, extended, tints and fills)
- 78) Create an instructor specified design using a vector illustration program
- 79) Trace a raster drawing/photograph using a vector illustration program
- 80) Create or edit images in a raster based program using layers
  - a. Transparencies
  - b. Layer modes
  - c. Masks
  - d. Selections
- 81) Create a spot color illustration or logo using Pantone Matching System (PMS) or other color matching system
- 82) Demonstrate how to view in a graphics software program or print separations of a logo created with spot colors

- 83) Demonstrate compositing or compositing images

### **G. Business Skills**

Business acumen is needed to effectively turn customer requirements into a finished project. Successful designers understand the steps necessary to gather information create a quote and manage customer expectations.

The following competencies describe the steps and processes commonly used to gather customer requirements and deliver a successful project

- 84) Collect needed information and complete necessary steps to complete a project from design to delivery by actively interacting with a client or instructor to include:
  - a. Project Initiation (determine the client's needs)
  - b. Research (explore information provided at the initial client meeting)
  - c. Strategy (analyze the research gathered and decide on design and functionality criteria)
  - d. Development (mind mapping, storyboarding, free writing, layout creation)
  - e. Presentation (review with client; make changes)
  - f. Production/launch (implement finished piece across all deliverables)
  - g. Completion (turn over completed project to client)
- 85) Explain time-based, fixed fee and value-based pricing of a graphic design project
- 86) Create a written quote for a design project
- 87) Produce an invoice for an advertising design project, identifying terms of payment
- 88) Identify potential high risk clients who might constitute a higher financial risk for non-payment of an invoice (new businesses, political campaigns, family/friends)
- 89) Formulate courses of action when faced with issue of non-payment of invoices
- 90) Determine the positives/negatives of accepting/declining prospective high risk clients who may have trouble paying for work provided

### **H. Portfolio**

The following competency provides an opportunity for students to demonstrate what they have learned and applied within a digital portfolio.

- 91) Create a digital portfolio to showcase your work

### **I. Math and Measurement**

The use of math and measurement skills are critical in a wide range of job functions within the graphic communications industry. Because of the many units of measurement only used in the graphic communications industry, it is important to be able to work with them.

The following competencies reinforce the math skills necessary for successful employment within the graphic communications industry.

- 92) Demonstrate the measurement of type in points and line length in picas

- 93) Convert points and pica measurements to inches
- *Convert 3.5 inch length to Picas*
- 94) Solve various problems that require dividing a given dimension in half
- *Calculate center point of page if it is 18.1875 inches wide*
- 95) Solve percent to decimal conversion problems
- *Calculate final size of a 12 inch image if it is reduced 25%*
- 96) Solve basic linear measurement problems
- *Calculate the number of inches in a poster that is 2.4 foot long*
- 97) Solve addition of decimal problems—two and three digits
- *Calculate total time to proofread 5 pages if pages 1 to 3 take 5.75 minutes each and pages 4 and 5 take 6.25 minutes each*
  - *Calculate total cost of a copy job if printing is \$76.23, heavy paper is an additional \$22.98 and drilling costs \$12.00*
- 98) Solve for the cost of an estimated job
- *Calculate selling price of a job if production is \$500, material cost is \$350 and markup is 15%*