DIGITAL ART AND DESIGN 1, 2, 3, AND 4
Course Codes 6120, 6121, 6122, 6123

COURSE DESCRIPTION:

The Digital Art and Design program prepares students for careers in the graphic design field. Skills may be applied in any media, such as print, digital media, product design, packaging, etc. Most of the standards require students to combine text and graphics to communicate an effective message in the format intended for commercial reproduction. Students are also expected to use industry software and design concepts, principles, and processes to manipulate text and graphics, utilize and output appropriate file formats for Web and print, and meet client expectations.

RECOMMENDED GRADE LEVEL: 10-12

RECOMMENDED UNITS: 1 to 3 Carnegie units per course code (depending upon individual school schedules)

UNIT A: SAFETY PROCEDURES AND PRACTICES

1. Identify lab policies and procedures.
2. Identify lab equipment.
3. Identify contact information for classroom emergencies.
4. Demonstrate safety procedures used in digital art and design program including safe body mechanics and ergonomics.
5. Identify all fire exits.
6. Demonstrate proper workspace cleaning procedures.

UNIT B: BASIC DRAWING SKILLS AND MEDIA EXPOSURE

1. Create line drawings.
2. Design compositions.
3. Render artwork using pencil.
4. Construct a color chart for color theory and harmony.
5. Create thumbnails and rough sketches.
6. Prepare photos and artwork for reproduction.
7. Prepare compositional layout.
8. Prepare electronic proofs.
9. Identify various printing processes.

UNIT C: TYPOGRAPHY

1. Identify various forms and styles of typography.
2. Illustrate x-height, mean-line, base-line, ascenders, descenders, serifs, and leading, as well as their roles in measuring and designing with type.
3. Illustrate caps, lowercase, uppercase, small caps, and ligatures.
4. Define dingbats, bullets, rules, glyphs, and symbols, plus their uses in publications.

5. Distinguish between display (headline) type and body (text) type by their point sizes, styles, and uses.
6. List the major typefaces/font families and their uses.
7. Explain letter spacing, tracking, kerning, baseline shift, and horizontal scale.
8. Demonstrate the type arrangements: flush left–ragged right, flush right–ragged left, centered, justified, force justified, and widows and orphans.

UNIT D: PRE-PRODUCTION PRACTICES

1. Demonstrate skills used when meeting with clients.
2. Demonstrate project management skills to estimate costs and establish a budget.
3. List practices used to schedule project workflow.
4. State the importance of obtaining approval/sign-off.
5. Demonstrate best practices in concept development including layout and copy.
6. Maintain an ongoing sketch book/notebook.
7. Produce draft quality drawings, including thumbnail drawings and rough sketches (integral to the creative process).
8. Produce a comprehensive layout (integral to the creative process).
9. Brainstorm a design concept based on customer need and target audience.
10. Demonstrate an understanding of the relationship between message, color, typography, images, and layout.
11. Demonstrate an understanding of corporate identity including how branding affects consumer recognition.
12. Explain color theory as it applies to design: additive, subtractive, CMYK, RGB, and Web safe.
13. Demonstrate an understanding of color theory by describing primary, secondary, and tertiary colors including hue, saturation, and lightness.
14. Demonstrate appropriate use of space (positive vs. negative; size and proportion).
15. Identify elements of design: line, shape, form, space, texture, value, and color.
16. Identify principles of design: contrast, unity, repetition, rhythm, balance, emphasis, and proportion.

UNIT E: PRODUCTION PRACTICES

1. List procedures used to ensure proper execution of a production plan including time log.
2. Demonstrate various United States Postal Service (USPS) design constraints and provide resources for more information on USPS requirements.
3. Describe techniques used to monitor, review, and adjust production schedule as necessary to meet quality standards.
4. Choose appropriate software to create art for end use.
5. Create original production pieces, meeting goals, timeline, and elements of style and design.
6. Demonstrate procedures to prepare work for presentation (mounting and craftsmanship).
7. Critique a layout to determine if it meets the customer's needs, and suggest improvements.

UNIT F: PHOTOGRAPHIC PRINCIPLES

1. Distinguish between digital and conventional photography.
2. Utilize design elements in photography composition.
3. Capture digital images using a scanner and digital camera.
4. Demonstrate appropriate scanner/program operations for line artwork and continuous tone in both black/white and color.
5. Identify high/low resolution images and describe the uses of each.
6. Download a digital image from a stock photography Web site or CD.
7. Scale a raster image using the proper settings in order to maintain the appropriate resolution for print or Web.
8. Edit a raster image by using color correction, tone control, cropping, scaling, etc.

UNIT G: DOCUMENT LAYOUT

1. Define units of measure and proper uses of each.
2. Utilize units of measure (points, pixels, and/or inches).
3. Import copy from a word processing program and format in a page layout program.
4. Set text with appropriate margins, formatting, gutters, and proper leading.
5. Design and produce a document using desired fonts, styles, margins, indents, tabs, and colors.
6. Create multiple page documents using text blocks, graphics, frames, and headings using drop caps and wrap-a-rounds (run-a-rounds).
7. Create documents using grids, templates, master pages, paragraph style sheets, and character style sheets.
8. Determine appropriate size, resolution, and format of images before placing into a document.
9. Save files to removable storage devices.
10. Export a print-ready Portable Document Format (PDF) using page layout software.
11. Identify trim size, bleed size, and live area of a project.
12. Locate examples of ad sizes from publications (full-page, half-page, and quarter-page ads).
13. Demonstrate an understanding of file formats (.ai, .jpg, psd, gif, tif, indd, pdf, etc.), file organization, and file naming conventions.
14. Perform pre-flight and package operations.
15. Describe process control procedures necessary for successful digital file output.
16. Understand and prepare pre-press printing files for both PMS spot color and CMYK process printing.
17. Save document in a variety of appropriate formats (native, Acrobat, and PostScript).
18. Explain the benefits of file extensions that are compatible with current software and appropriate for documents and their settings.
19. State and identify file transfer protocol (FTP).

UNIT H: RASTER IMAGES

1. Scan images from different sources for a variety of uses.
2. Use proper settings when choosing line-art, grayscale, and color scanning.
3. Define RGB versus CMYK image modes and their usage.
4. Demonstrate proficiency with photo editing tools, options, and palettes.
5. Retouch, modify, and correct images.
6. Improve photocomposition and focal points.
7. Improve the color and tonal balance of an image.
8. Demonstrate techniques of layer management.
9. Define masks and channels and demonstrate techniques for using them in an image.
10. Define raster file formats and their qualities.
11. Create a clipping path.
12. Explain how to save an original file with layers for future editing.

UNIT I: VECTOR IMAGES

1. Define vector graphics.
2. Create a vector illustration using an electronic drawing program.
3. Set text into the artwork as a design element.
4. Set type on a path and within a shape.
5. Create outlines.
6. Use image creation tools, options, and pallets.
7. Select colors from color swatch libraries.
8. Apply patterns and gradients.
9. Apply layer management.
10. Apply proper settings when saving or exporting graphics.
11. Create or trace drawings/photographs using a vector illustration program.
12. Create basic shapes: triangles, boxes, circles, etc.
13. Draw using the pen tool.
14. Fill objects using painting tools.
15. Transform objects by scaling and rotating.
16. Apply attributes, styles, and effects.
17. Assign pantone colors, blends, gradients, and effects to create a unified vector image.
18. Create a spot color illustration or logo using Pantone Matching System® (PMS) or other color matching system.

UNIT J: COMPUTER PLATFORM AND OPERATIONS SYSTEMS

1. Compare the basic computer platforms.
2. Define troubleshooting skills and procedures.
3. Create and manage files and folders.
4. Understand and describe local and network drives and storage.
5. Save, retrieve, load, format, import data into, and export a variety of electronic documents (word processing, spreadsheet, database, and design software).

6. Demonstrate the proper use of a variety of external peripherals and how they connect to a computer.
7. Demonstrate proper use of spell check.

UNIT K: EMPLOYABILITY SKILLS

1. Identify industries, organizations, and careers that require design skills.
2. Create professional cover letters, resumes, and portfolios in a variety of formats (print and electronic).
3. Demonstrate personal and interpersonal skills appropriate for the workplace (e.g., responsibility, dependability, punctuality, integrity, positive attitude, initiative, respect for self and others, professional dress).

UNIT L: LEGAL REQUIREMENTS AND ETHICAL CONSIDERATIONS

1. Define accessibility laws related to Web site design.
2. Identify laws that regulate businesses and organizations in the design field.
3. Define the requirements of and protections given by copyright and trademark laws.
4. Define the impact of the Americans with Disabilities Act and other civil rights legislation on a business/organization, its employees, and its customers.
5. Define ethical business practices for the design field.
6. Define plagiarism.
7. Define differences between classroom and professional practices in regard to copyrights.
8. Summarize rights and responsibilities in the school's Acceptable Use Policy.
9. Explain laws restricting use of copyrighted materials on the Internet.
10. Discuss the concerns about electronic communications, privacy, and security, including protection from spy ware and viruses.
11. Explain how to evaluate electronic sources of information.

OPTIONAL UNITS/ NOT REQUIRED SKILLS IN DIGITAL ART AND DESIGN

CREATING 2-D ANIMATIONS

1. Define animation and its relationship to time.
2. Create a storyboard of proposed animation.
3. Create a simple frame-based/key frame animation.
4. Demonstrate use of controller palettes to review, loop, and play back animation.
5. Create a layer-based animation.
6. Animate a project using motion tweening.

WEB DESIGN

1. Analyze existing Web sites for style and content.
2. Compare and contrast preferred formats for various page elements.
3. Analyze and design Web sites for aesthetic appeal.

4. Create a basic site architecture.
5. Plan a Web page design with thumbnail sketches, rough layouts, and site map.
6. Create a functional and esthetic interface.
7. Organize, optimize, and collect images and content for Web site design.
8. Create consistency between Web design and existing marketing materials.
9. Describe the delivery of prototype to client and receipt of feedback from client.
10. Define file management and illustrate examples of root/folder management.
11. Execute final Web pages from a Web authoring program.
12. Manage various asset folders.
13. Optimize photos and illustrations.
14. Identify Web color and resolution.
15. Create components to be used on a Web page (rollovers, buttons, banners, etc.).