

# Arts, A/V Technology & Communications (2021): Commercial Art Technology

Demonstrate proficiency in the elements and principles of design. The student will be able to: [1.CAT.1.0](#)

**1.01** Explain proper use and care of tools and equipment. [1.CAT.1.01](#)

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**1.02** Discuss the legal and ethical issues related to graphic design. [1.CAT.1.02](#)

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**1.03** Apply the principles and elements of design. [1.CAT.1.03](#)

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**1.04** Demonstrate a basic understanding of vector drawing programs. [1.CAT.1.04](#)

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**1.05** Demonstrate a basic understanding of photo-editing / photo-manipulation programs. [1.CAT.1.05](#)

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**1.06** Apply color theory (pigment versus light). [1.CAT.1.06](#)

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**1.07** Utilize tones, hues, and values. [1.CAT.1.07](#)

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**1.08** Sketch designs using pencil and ink. [1.CAT.1.08](#)

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**1.09** Mix and apply colors to produce desired hues, tints, and shades. [1.CAT.1.09](#)

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**1.10** Apply color for impact (color psychology) and demonstrate an understanding of color theory. [1.CAT.1.10](#)

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**1.11** Differentiate between line, halftone, duotone, spot, RGB, four-color process, and web-safe colors. [1.CAT.1.11](#)

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**1.12** Demonstrate 2-D design capabilities. [1.CAT.1.12](#)

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**1.13** Demonstrate designs with symmetry and asymmetry. [1.CAT.1.13](#)

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**1.14** Develop grids for traditional and digital layouts for print and web media. [1.CAT.1.14](#)

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**1.15** Create freehand designs and objects for visualization and presentation. [1.CAT.1.15](#)

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**1.16** Demonstrate harmony and contrast of line and shape. [1.CAT.1.16](#)

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- 1.17 Demonstrate harmony and contrast of color and tone.** 1.CAT.1.17

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  - 1.18 Demonstrate harmony and contrast of proportion.** 1.CAT.1.18

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  - 1.19 Demonstrate harmony and contrast of texture pattern.** 1.CAT.1.19

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  - 1.20 Demonstrate harmony and contrast of motion.** 1.CAT.1.20

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  - 1.21 Indicate style of layout design appropriate to the target audience.** 1.CAT.1.121

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  - 1.22 Make a collage.** 1.CAT.1.22

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  - 1.23 Begin developing a professional portfolio (to be updated as the student progresses through the program).** 1.CAT.1.23

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  - 1.24 (Optional) Create a sign on poster board.** 1.CAT.1.24
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**Demonstrate proficiency in art and design skills. The student will be able to:** 2.CAT.2.0

- 02.01 Explain proper use and care of tools.** 2.CAT.2.01

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  - 02.02 Make computations for centering, spacing, and scaling drawings.** 2.CAT.2.02

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  - 02.03 Draw on various types of media.** 2.CAT.2.03

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  - 02.04 Illustrate using ink, pencil, washes, markers, tempera, watercolor, and paints.** 2.CAT.2.04

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  - 02.05 Demonstrate renderings of different textures using the above listed media.** 2.CAT.2.05

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  - 02.06 Make illustrations using various objects.** 2.CAT.2.06

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  - 02.07 Make a montage illustration.** 2.CAT.2.07

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  - 02.08 Draw a cartoon.** 2.CAT.2.08

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  - 02.09 Interpret information from drawings, prints, and sketches.** 2.CAT.2.09

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  - 02.10 Draw freehand sketches.** 2.CAT.2.10

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  - 02.11 Draw a one-point perspective and a two-point perspective.** 2.CAT.2.11

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  - 02.12 Make corrections to a drawing.** 2.CAT.2.12

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  - 02.13 Develop a glossary of technical terms.** 2.CAT.2.13

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  - 02.14 Analyze an object to determine size, shape, and proportion.** 2.CAT.2.14

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  - 02.15 Draw an oblique drawing.** 2.CAT.2.15

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  - 02.16 Draw an isometric drawing.** 2.CAT.2.16
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**Demonstrate an understanding of type design. The student will be able to:** 3.CAT.3.0

- 03.01 Define typographic terms (e.g., leading, kerning). 3.CAT.3.01
- 03.02 Identify and select typographic applications. 3.CAT.3.02
- 03.03 Demonstrate the ability to proofread, to use proofreader's marks, and to run a spell check. 3.CAT.3.03
- 03.04 Explain picas, points, and conversion to inches. 3.CAT.3.04
- 03.05 Explain specification of type and copy fitting. 3.CAT.3.05
- 03.06 Identify and select typographic styles. 3.CAT.3.06
- 03.07 Define basic letter structures. 3.CAT.3.07
- 03.08 Demonstrate mixing of families of type. 3.CAT.3.08
- 03.09 Identify and select lettering styles. 3.CAT.3.09
- 03.10 Determine and select lettering styles for layout sketches. 3.CAT.3.10

**Demonstrate proficiency in layout. The student will be able to:** 4.CAT.4.0

- 04.01 Identify the parts of a layout. 4.CAT.4.01
- 04.02 Create thumbnail sketches. 4.CAT.4.02
- 04.03 04.03 Create roughs and comprehensives from thumbnail sketches. 4.CAT.4.03
- 04.04 Prepare computer roughs from pencil layouts. 4.CAT.4.04
- 04.05 Prepare digital-ready artwork from comprehensives; prepare files that are print-ready and presentation-ready. 4.CAT.4.05
- 04.06 Crop and scale artwork and/or photos for layouts. 4.CAT.4.06
- 04.07 Use adhesives. 4.CAT.4.07
- 04.08 Demonstrate the use of effects or styles. 4.CAT.4.08
- 04.09 Explain layout and color trends. 4.CAT.4.09

**Demonstrate proficiency in applied design. The student will be able to:** 5.CAT.5.0

- 05.01 Locate and identify resource materials for inspiration; develop a file or idea bank. 5.CAT.5.01
- 05.02 Design logos. 5.CAT.5.02
- 05.03 Design stationery layouts. 5.CAT.5.03
- 05.04 Design a magazine, book cover, album artwork, and CD cover. 5.CAT.5.04

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- 05.05** Design an ad campaign that includes newspapers, magazines, billboards, and television; demonstrate continuity. 5.CAT.5.05
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- 05.06** Design a greeting card. 5.CAT.5.06
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- 05.07** Design a business card. 5.CAT.5.07
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- 05.08** Apply advertising psychology. 5.CAT.5.08
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- 05.09** Produce an industrial brochure and/or consumer brochure. 5.CAT.5.09
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- 05.10** Design a consumer brochure. 5.CAT.5.10
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- 05.11** Construct a package design. 5.CAT.5.11
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- 05.12** Produce computer-assisted artwork. 5.CAT.5.12
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- 05.13** Continue developing a professional portfolio. 5.CAT.5.13
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**Demonstrate proficiency in graphic art computer skills. The student will be able to:** 6.CAT.6.0

- 06.01** Demonstrate graphic art computer skills using appropriate graphic art programs and hardware. 6.CAT.6.01
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- 06.02** Use software and hardware to manipulate and adjust various drawings, photos, and graphic material by computer. 6.CAT.6.02
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- 06.03** Produce finished computer projects that reflect current and/or emergent trends in graphic art technology. 6.CAT.6.03
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- 06.04** Operate various input devices for computer graphics, such as scanners and cameras. 6.CAT.6.04
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- 06.05** Demonstrate proficiency in vector and raster programs. 6.CAT.6.05
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- 06.06** (Optional) Make an orthographic drawing using digital software. 6.CAT.6.06
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- 06.07** Continue developing a professional portfolio. 6.CAT.6.07
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**Demonstrate proficiency in graphic production. The student will be able to:** 7.CAT.7.0

- 07.01** Define the differences in production processes and estimate relative costs. 7.CAT.7.01
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- 07.02** Recognize the limitations for printing and dissemination on the Internet. 7.CAT.7.02
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- 07.03** Identify and select different printing surfaces (e.g., embossing/debossing, silk lamination, varnish, foil, thermography, die cut, letterpress, and silkscreen). 7.CAT.7.03
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- 07.04** Identify and select appropriate printing inks. 7.CAT.7.04
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- 07.05 Identify and select finishing processes.** 7.CAT.7.05

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  - 07.06 Identify standard industry material sizes.** 7.CAT.7.06

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  - 07.07 Specify types of folds.** 7.CAT.7.07

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  - 07.08 Make a print on a plotter.** 7.CAT.7.08

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  - 07.09 Demonstrate proficiency in preparing files for output via print media and web content (preflight).** 7.CAT.7.09
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**Demonstrate an understanding of employability in commercial art and graphic media. The student will be able to:** 8.CAT.8.0

- 08.01 Identify and create a résumé, references, cover letter, and a thank you letter.** 8.CAT.8.01

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  - 08.02 Relay instructions to others orally and in writing.** 8.CAT.8.02

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  - 08.03 Define and explain graphic design terms.** 8.CAT.8.03

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  - 08.04 Identify common industry questions.** 8.CAT.8.04

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  - 08.05 Make project presentations.** 8.CAT.8.05

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  - 08.06 Explain appropriate interactions with an employer, fellow employees, and customers.** 8.CAT.8.06

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  - 08.07 Identify potential career pathways.** 8.CAT.8.07

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  - 08.08 Understand the importance of networking with other people in the profession.** 8.CAT.8.08

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  - 08.09 Conduct a job search.** 8.CAT.8.09

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  - 08.10 Develop a professional digital portfolio.** 8.CAT.8.10
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**Demonstrate an understanding of entrepreneurship. The student will be able to:** 9.CAT.9.0

- 09.01 Define entrepreneurship.** 9.CAT.9.01

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- 09.02 Describe the importance of entrepreneurship to the American economy.** 9.CAT.9.02

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- 09.03 List the advantages and disadvantages of business ownership.** 9.CAT.9.03

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- 09.04 Identify the risks involved in ownership of a business.** 9.CAT.9.04

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- 09.05 Identify the necessary personal characteristics of a successful entrepreneur.** 9.CAT.9.05

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- 09.06 Identify the business skills needed to operate a small business efficiently and effectively.** 9.CAT.9.06

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**09.07 Create a business plan.** 9.CAT.9.07

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**Demonstrate proficiency in website planning and the design process. The student will be able to:** 10.CAT.10.0

**10.01 Discuss the importance of information architecture to web design and development.** 10.CAT.10.01

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**10.02 Conduct a client interview to determine the purpose and needs of the business.** 10.CAT.10.02

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**10.03 Conduct a competitive analysis of similar industry sites.** 10.CAT.10.03

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**01.01 Identify stages in the web design process and describe the activities comprising each stage.** 10.CAT.10.04

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**10.05 Define the site structure by creating a content map, storyboard, and associated wireframes.** 10.CAT.10.05

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**10.06 Discuss the legal and ethical issues related to web design and web content.** 10.CAT.10.06

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**10.07 Describe accessibility and its implications on web design.** 10.CAT.10.07

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**10.08 Create a website mock-up for client approval.** 10.CAT.10.08

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**10.09 Continue developing a professional traditional and digital portfolio.** 10.CAT.10.09

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**Develop markup language structures. The student will be able to:** 11.CAT.11.0

**11.01 Define common markup languages and understand the usage of these languages.** 11.CAT.11.01

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**11.02 Identify common devices.** 11.CAT.11.02

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**11.03 Determine device and browser support and the appropriate usage of markup languages (existing and emerging).** 11.CAT.11.03

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**Create basic webpages. The student will be able to:** 12.CAT.12.0

**12.01 Create basic webpage structures using common markup elements and attributes.** 12.CAT.12.01

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**12.02 Incorporate list structures in a webpage (ordered, unordered, definition, nested).** 12.CAT.12.02

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**12.03 Incorporate link structures in a webpage (external, internal, email).** 12.CAT.12.03

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**12.04 Research web color usage principles and incorporate in a webpage.** 12.CAT.12.04

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**Incorporate images and graphical formatting on**

**13.01 Describe usage guidelines (e.g., format types, size, relevance) for integrating images and graphics into a webpage.** 13.CAT.13.01

a webpage. The student will be able to: 13.CAT.13.0

**13.02** Compare and contrast standard image formats used in webpage design. 13.CAT.13.02

**13.03** Incorporate graphics into a webpage design. 13.CAT.13.03

**13.04** Create and incorporate image maps in a webpage. 13.CAT.13.04

**13.05** Optimize images and graphics for use in a webpage. 13.CAT.13.05

**13.06** Incorporate bootstrap layout. 13.CAT.13.06

Incorporate form structures in a webpage. The student will be able to: 14.CAT.14.0

**14.01** Create an accessible form using common elements; include form, fieldset, legend, text area, select, option, button, and input (radio, checkbox, submit, reset, image, password, hidden). 14.CAT.14.01

**14.02** Describe and diagram the relationship between XHTML forms and server-side technologies. 14.CAT.14.02

**14.03** Compare and contrast the GET and POST methods for forms handling. 14.CAT.14.03

**14.04** Define form validation and describe how it is accomplished. 14.CAT.14.04

**14.05** List popular server-side technologies used to process content sent from XHTML forms. 14.CAT.14.05

**14.06** Use labels with form elements. 14.CAT.14.06

**14.07** Connect an XHTML form to a server-side script for processing. 14.CAT.14.07

Describe frame structures and the usage of these structures. The student will be able to: 15.CAT.15.0

**15.01** Explore frame and iframe structures and support issues. 15.CAT.15.01

**15.02** Describe appropriate uses of iframes. 15.CAT.15.02

**15.03** Incorporate frame structure in a webpage. 15.CAT.15.03

Use Cascading Style Sheets (CSS). The student will be able to: 16.CAT.16.0

**16.01** Define CSS and describe its importance in web design. 16.CAT.16.01

**16.02** Compare and contrast existing and emerging CSS versions. 16.CAT.16.02

**16.03** Determine browser support and the appropriate usage of CSS (existing and emerging versions). 16.CAT.16.03

**16.04** Explain “document flow” and describe its implications on web design. 16.CAT.16.04

**16.05** Recognize and use element selectors, ID selectors, class selectors, pseudo-class selectors, and descendant selectors. 16.CAT.16.05

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**16.06** Explain how inheritance and specificity affect CSS rule conflicts. 16.CAT.16.06

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**16.07** Use inline styles, embedded style sheets, and external style sheets. 16.CAT.16.07

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**16.08** Use the link and import methods to connect to an external style sheet. 16.CAT.16.08

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**16.09** Use CSS shorthand techniques to create efficient and concise style sheets. 16.CAT.16.09

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**16.10** Apply basic CSS properties (background, border, clear color, float, font, height, line-height, list-style, margin, overflow, padding position, text-align, text-indent, width, z-index, padding). 16.CAT.16.10

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**16.11** Use CSS to style tables (e.g., borders, width, spacing, alignment, background). 16.CAT.16.11

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**16.12** Use CSS to enhance the appearance and usability of an XHTML form. 16.CAT.16.12

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**Examine web design technologies and techniques. The student will be able to:** 17.CAT.17.0

**17.01** Compare and contrast common authoring tools. 17.CAT.17.01

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**17.02** Compare and contrast client-side and server-side technologies. 17.CAT.17.02

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**17.03** Define e-commerce types and usages. 17.CAT.17.03

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**17.04** Describe database connectivity relative to websites. 17.CAT.17.04

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**17.05** Identify technologies to enhance user experiences. 17.CAT.17.05

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**Describe the process for publishing a website. The student will be able to:** 18.CAT.18.0

**01.01** Explore domain name selection principles. 18.CAT.18.01

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**18.02** Identify the process for registering a domain name. 18.CAT.18.02

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**18.03** Compare and contrast hosting providers, features, and selection criteria. 18.CAT.18.03

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**18.04** Describe the various means for uploading website files (e.g., FTP, web-based tools). 18.CAT.18.04

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**Describe how website performance is monitored and analyzed. The student will be able to:** 19.CAT.19.0

**19.01** Identify issues related to website maintenance. 19.CAT.19.01

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**19.01** Identify issues related to website maintenance. 19.CAT.19.02

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**19.03** Describe website performance metrics (e.g., visits, time-on-page, time-on-site) and discuss the implication of performance metrics on design. 19.CAT.19.03

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**19.04** Demonstrate knowledge of accessibility problems and solutions. 19.CAT.19.04

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**19.05** Examine indexing, page ranking, and basic Search Engine Optimization (SEO) techniques. 19.CAT.19.05

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**19.06** Explore common website analytic tools. 19.CAT.19.06

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**Create an informational website. The student will be able to:** 20.CAT.20.0

**20.01** Use Content Management System (CMS) web authoring software to create a multipage informational website. 20.CAT.20.01

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**20.02** Use image-editing software to enhance website designs with simple graphics. 20.CAT.20.02

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**20.03** Use animation software to enhance website designs. 20.CAT.20.03

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**20.04** Enhance the website using client-side technologies (e.g., rollovers, plug-ins, pop-up windows). 20.CAT.20.04

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**20.05** Demonstrate efficient and consistent website development practices (e.g., the use of templates, snippets). 20.CAT.20.05